



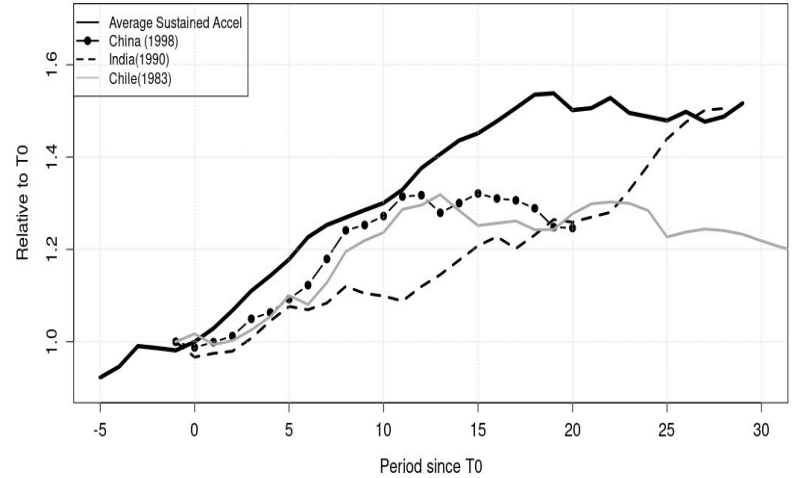
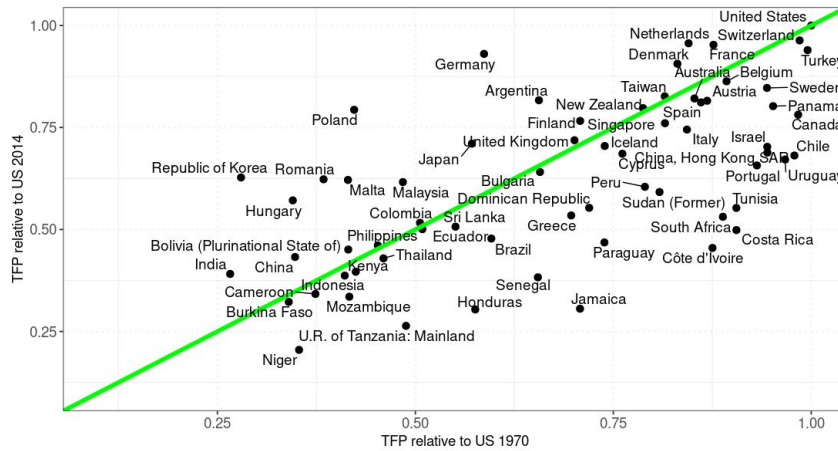
Distortions and Firm Dynamics in Middle Income Countries

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WDR 2024 Seminar Series
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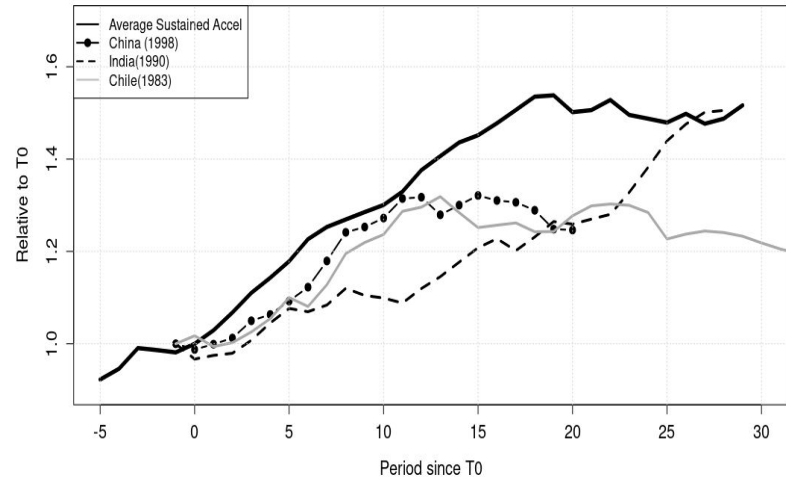
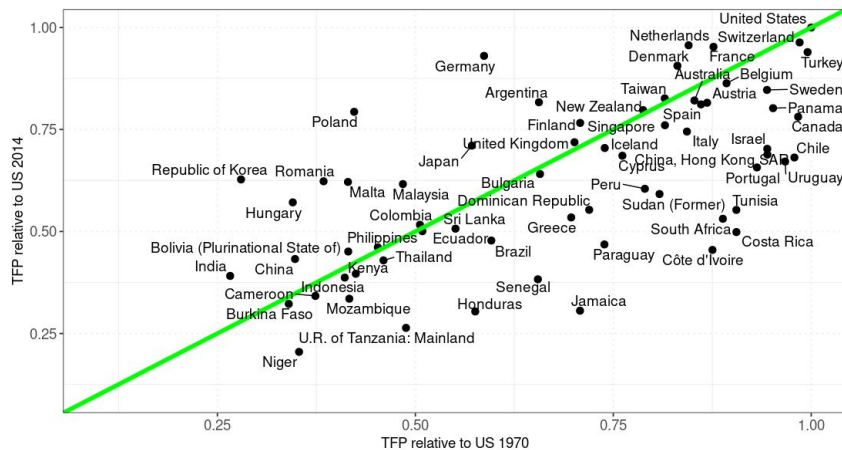
What Explains TFP Differences? Growth Accelerations?

An Unified View Of Development Differences and Dynamics



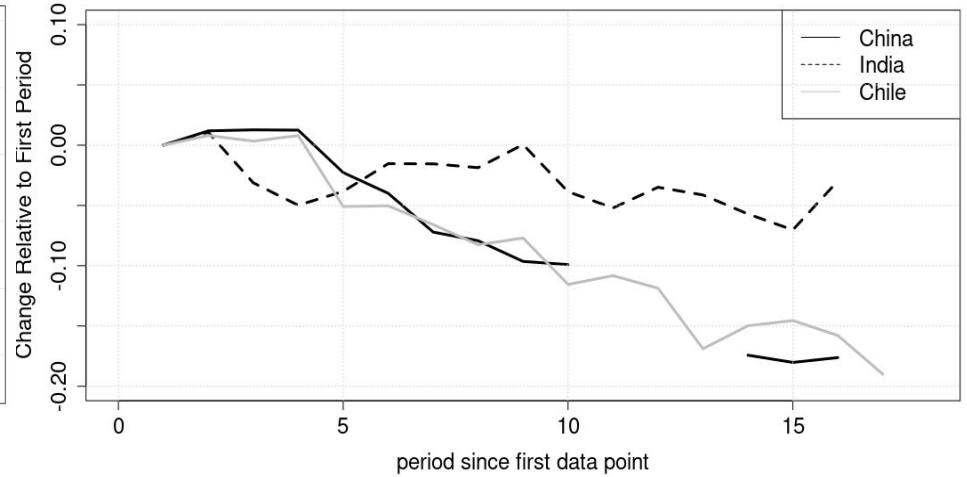
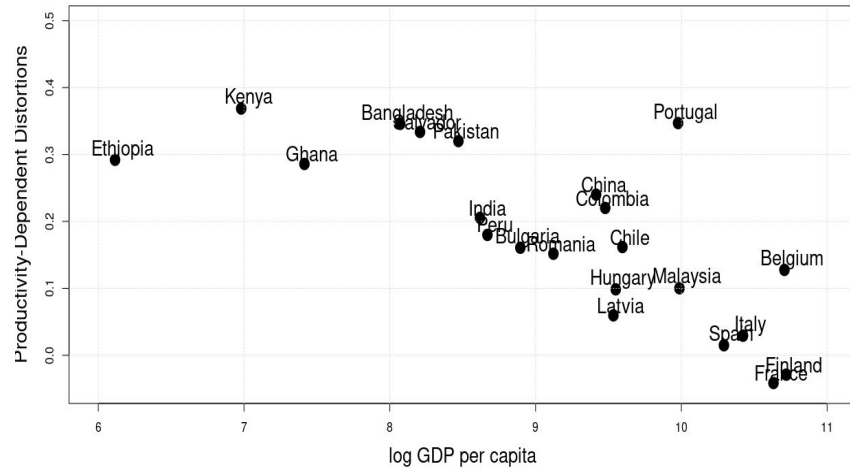
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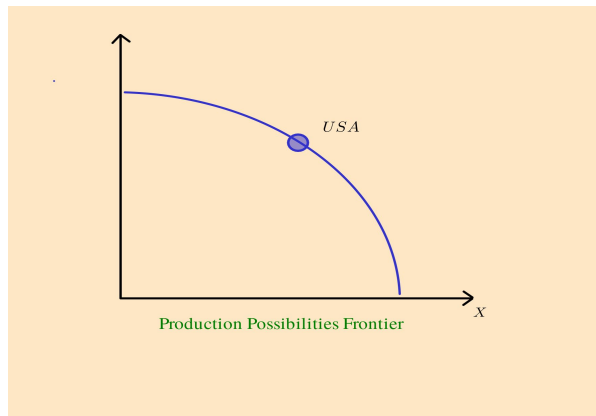
- Evaluate the role of persistent / declining distortions
 - Policies and frictions that misallocate resources from more to less productive firms
 - E.g. India's Small Scale Reservation Laws
- Mechanism: endogenous theory of TFP
 - **Static:** resource misallocation
 - **Dynamic:** reduced innovation

Main Messages



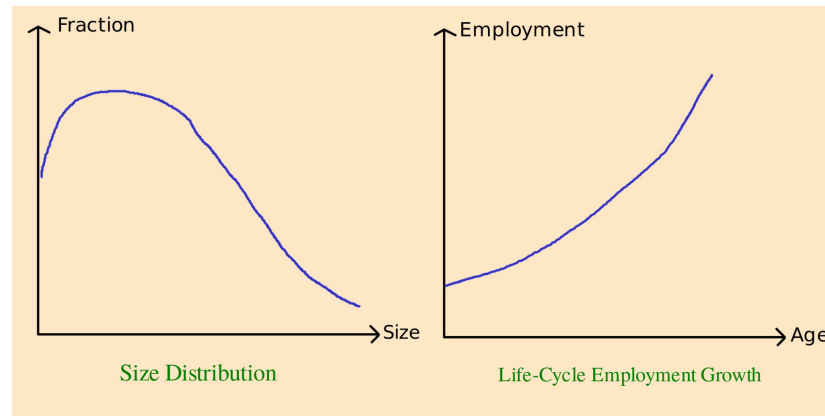
- Larger distortions in less developed economies
- Declining distortions in salient growth accelerations
 - Reversal of misallocation
 - Technology adoption and Innovation

Efficient Creative Destruction



MACRO

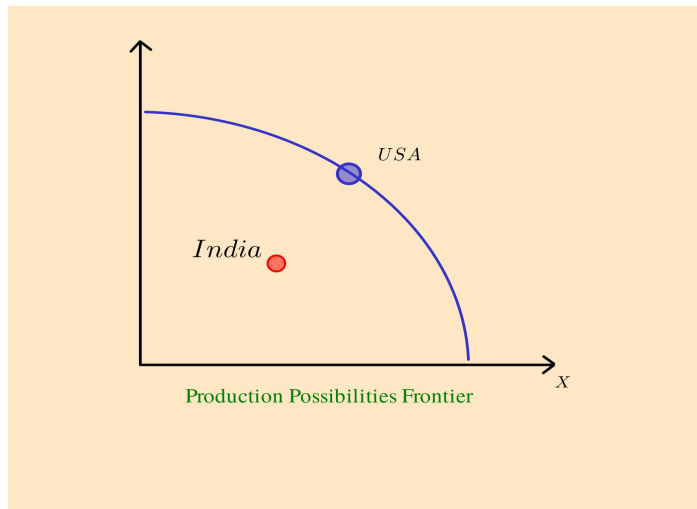
- Creative Destruction → Pushing the frontier
- Entrants and incumbents invest in tech
- Allocative Efficiency → AT the frontier



MICRO

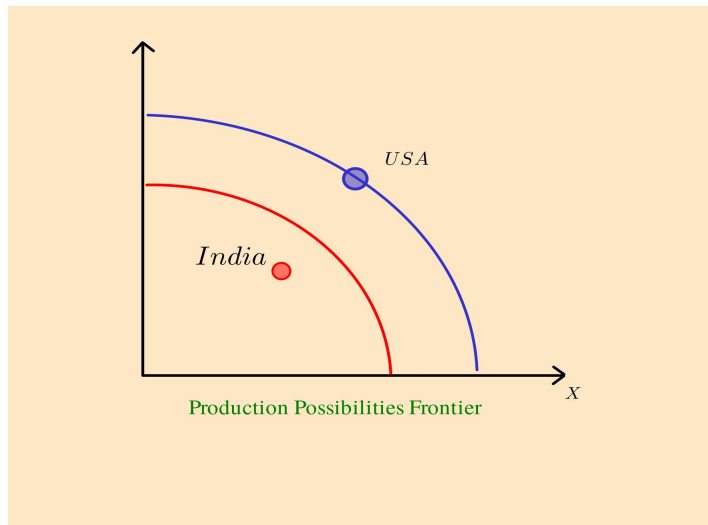
- Size distribution reflects capability distribution
- Up or out life-cycle dynamics

Creative Destruction Meets Misallocation



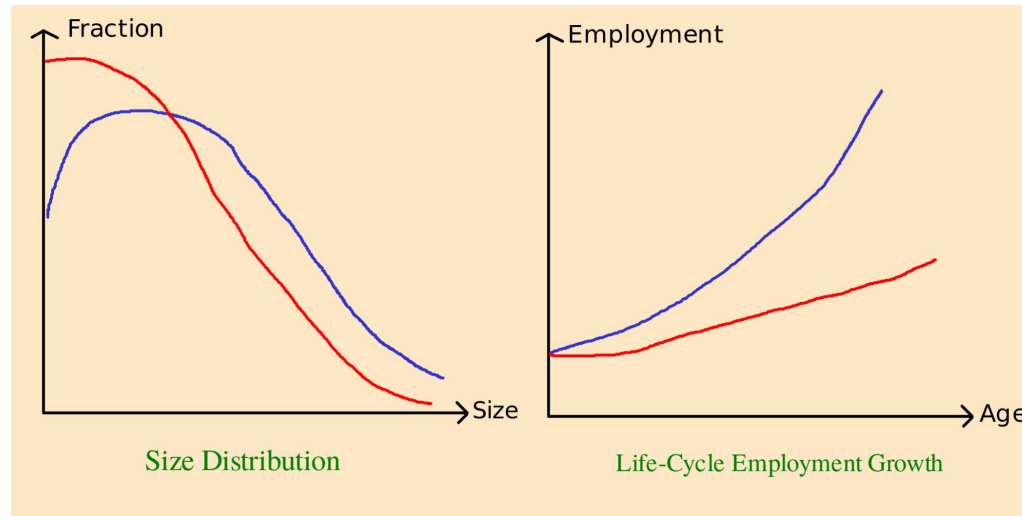
- Misallocation: capable firms too small, less capable ones too big → **inside frontier**
 - Financial frictions
 - Size-dependent labor regulations
 - Size-dependent tax-enforcement

Creative Destruction Meets Misallocation



- Dynamic Effect: disincentive to innovate → **inward shift frontier**
 - Why innovate if distorted rate of return?

Creative Destruction Meets Misallocation: Micro



- Inefficient Size Distribution: prevalence of small firms
- Inefficient Life-Cycle Dynamics: weaker selection + less innovation = “Flat and Stay” dynamics

How to Measure Distortions?

- De-jure based: PMR, Doing Business
- Survey Based: Enterprise Surveys
- **Outcome Based:** expected efficient behavior vs actual behavior
 - Structural approach → assumptions to derive efficiency
 - Data intensive: firm-level data

How to Measure Distortions?

Consider 2 manufacturers of Dairy Products ISIC code 1050, A and B

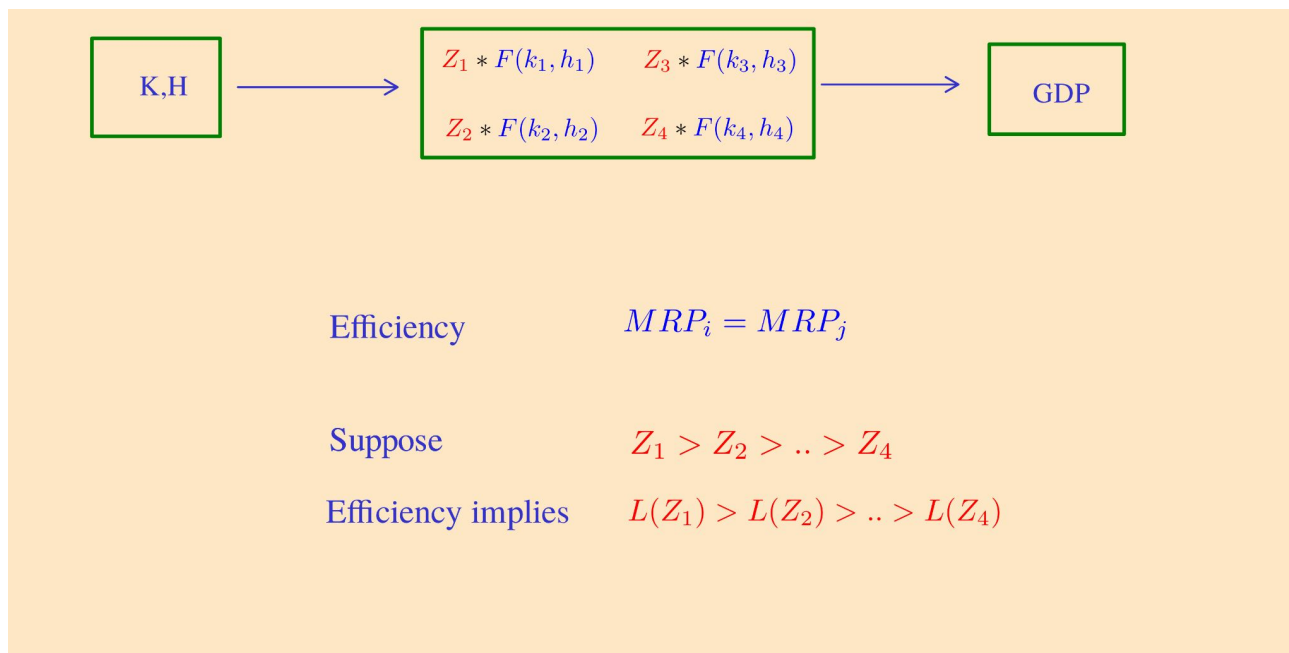
Productivity A > Productivity B

- **Efficiency:** equalize marginal revenue products
 - Employment A = 300
 - Employment B = 100
- **Data**
 - Employment A = 250
 - Employment B = 150
- **Distortion:** Tax/subsidy combination that rationalizes data
 - Firm A is “ Implicit Tax”
 - Firm B is “ Implicit Subsidy”

Outcome: A Distribution of Firm-Specific Implicit Taxes and Subsidies

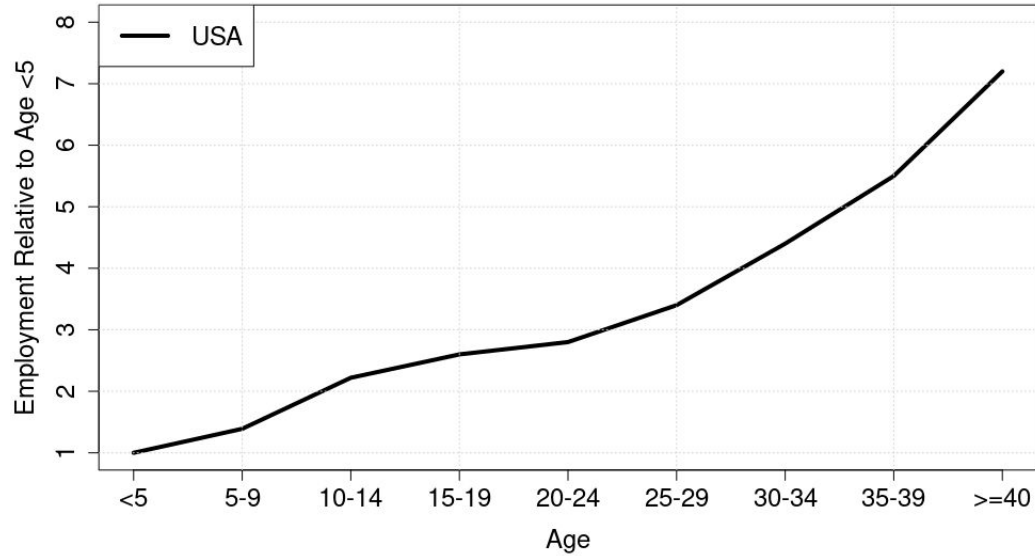
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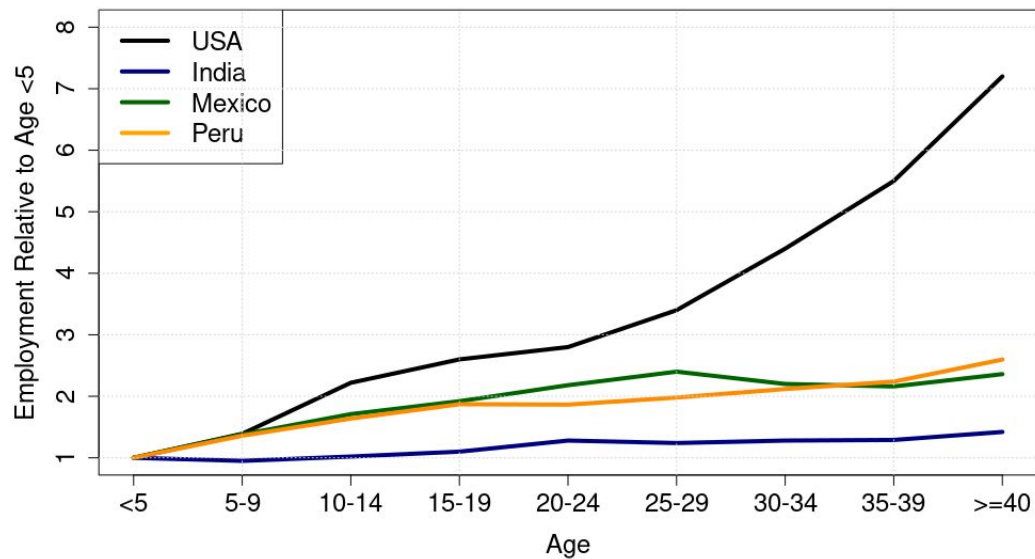
SIMPLE DIAGNOSTICS

LIFE-CYCLE DYNAMICS OF FIRMS



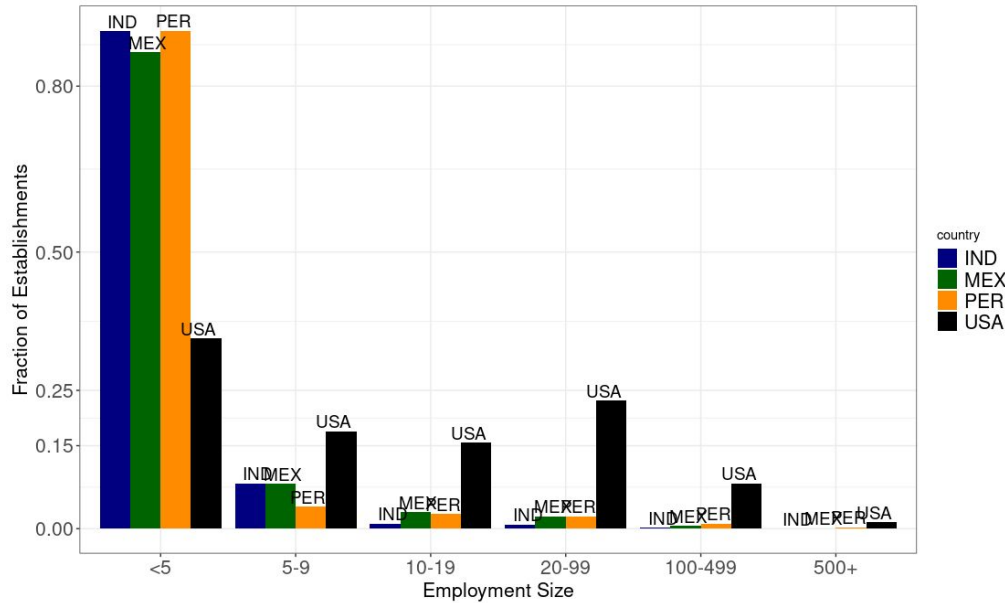
- USA up or out dynamics

LIFE-CYCLE DYNAMICS OF FIRMS



- US: up or out dynamics
- India, Mexico, Peru: flat and stay dynamics
 - Weak selection
 - Weak growth

MICRO-ENTERPRISES RULE



- Flat and Stay → micro-entrepreneurship
- Already suggests weak creative destruction

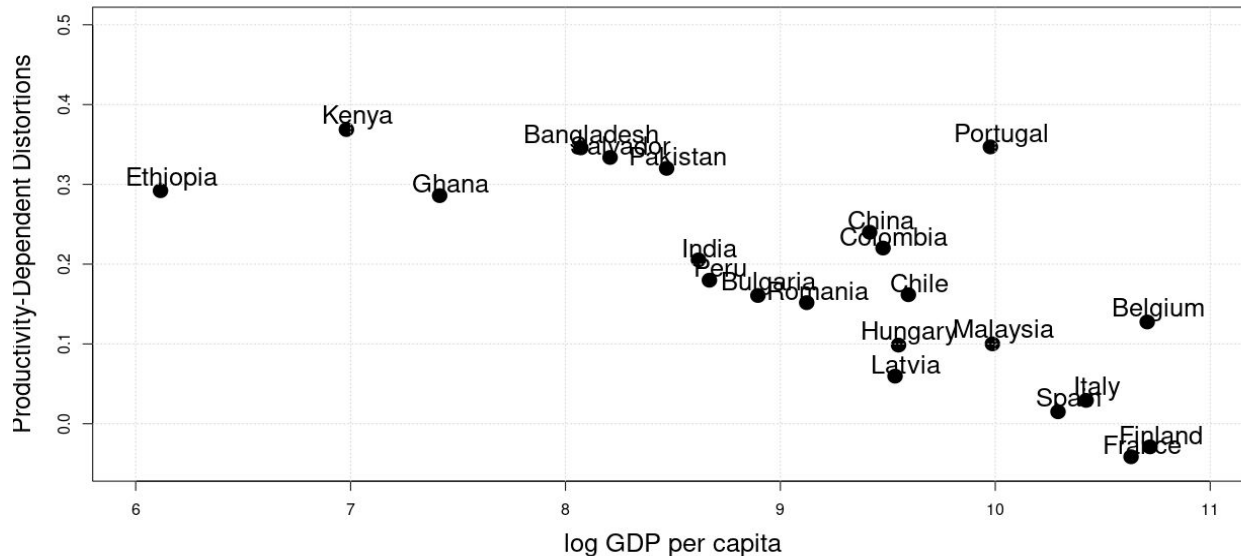
Can we go deeper?

[Data_usa](#) [AvSize](#)

MEASURING DISTORTIONS

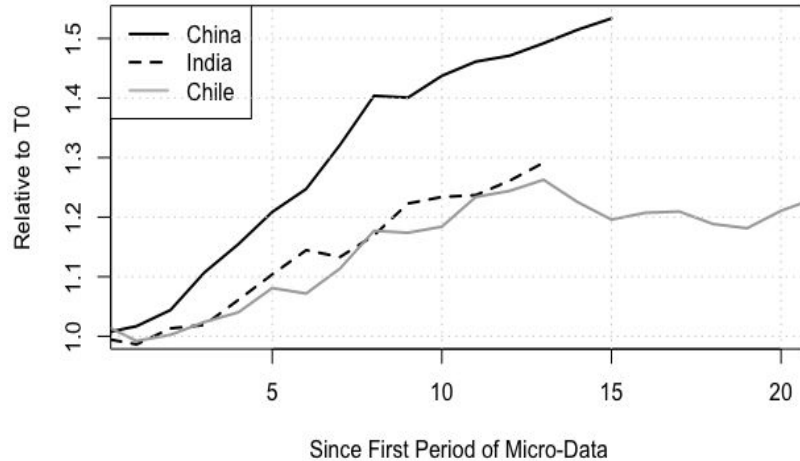
DISTORTIONS: The Evidence

- Efficiency: Strong size-productivity relationship
- Productivity-dependent distortions: Weak size-productivity relationship
 - Too costly for productive firms to achieve desired scale

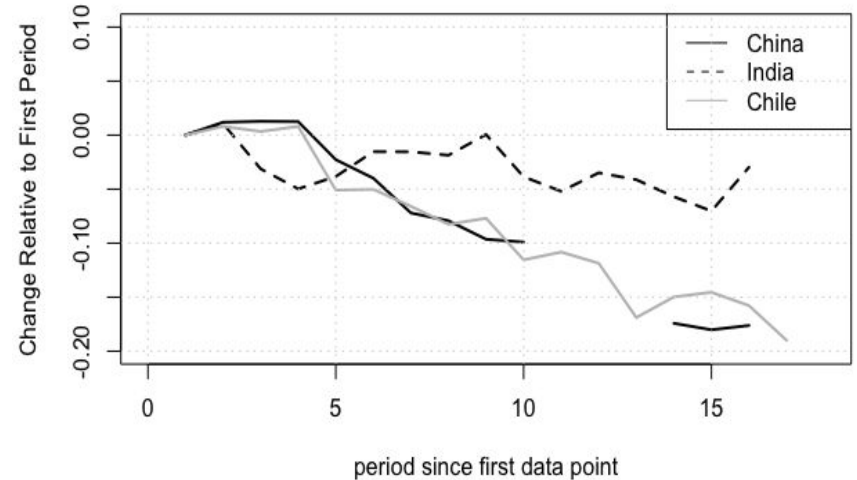


DISTORTIONS AND GROWTH ACCELERATIONS

TFP Sustained Growth Accelerations



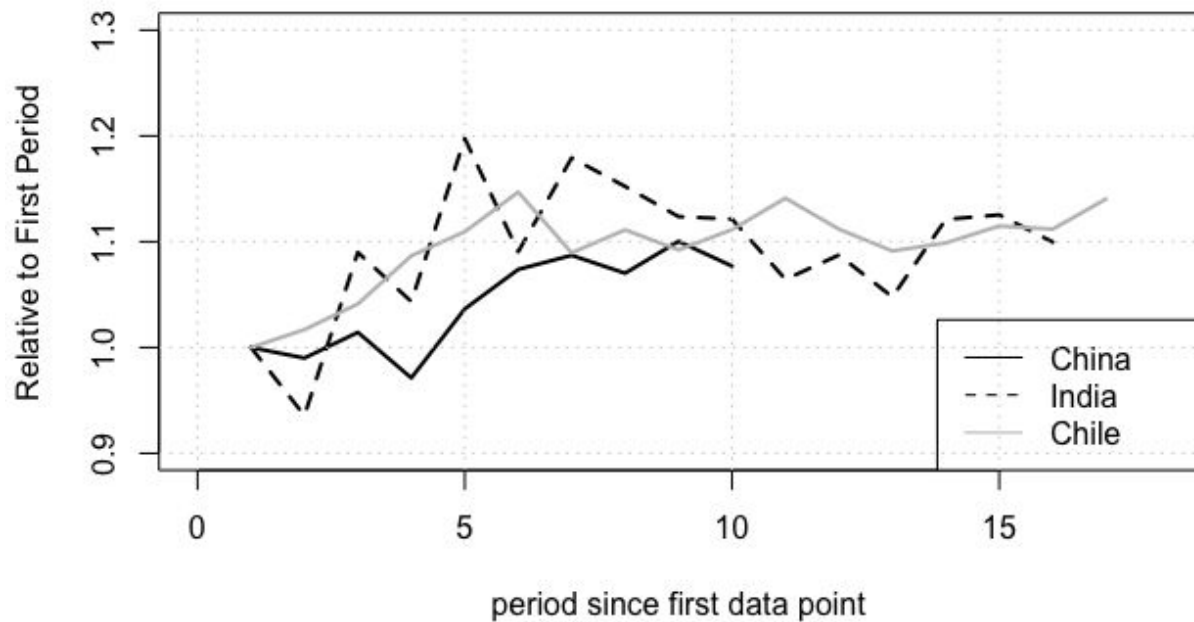
Productivity-Dependent Distortions and Growth Accelerations



Source: WDR team based on PWT 9.0, ASI (India), ENIA (Chile), Survey of Industrial Production (China)

LOWER DISTORTIONS AND ALLOCATIVE EFFICIENCY

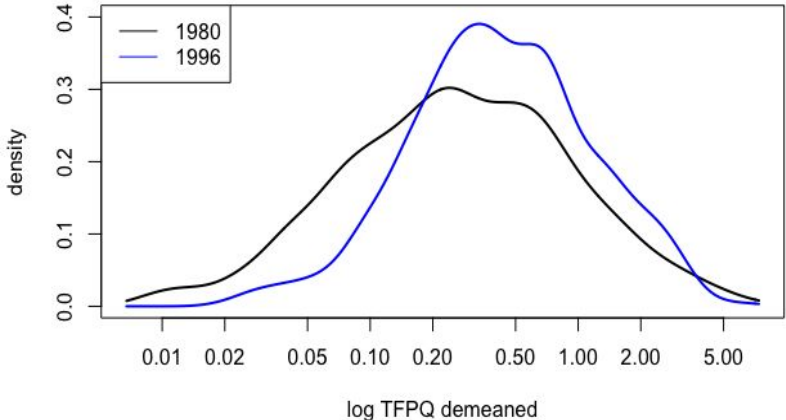
Improvement in Allocative Efficiency



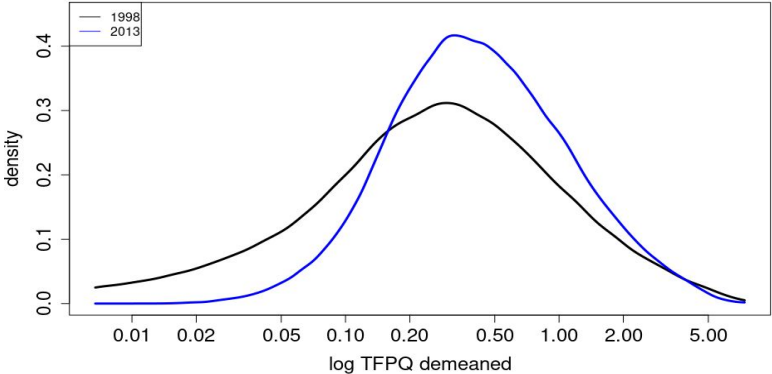
- TFP DATA
- TFP POTENTIAL
- 10% bridging gap with PPF

FROM REALLOCATION TO ADOPTION AND INNOVATION

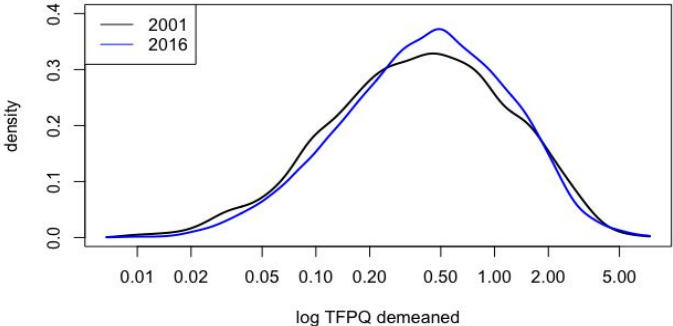
TFPQ distribution Chile



TFPQ distribution China



TFPQ distribution India

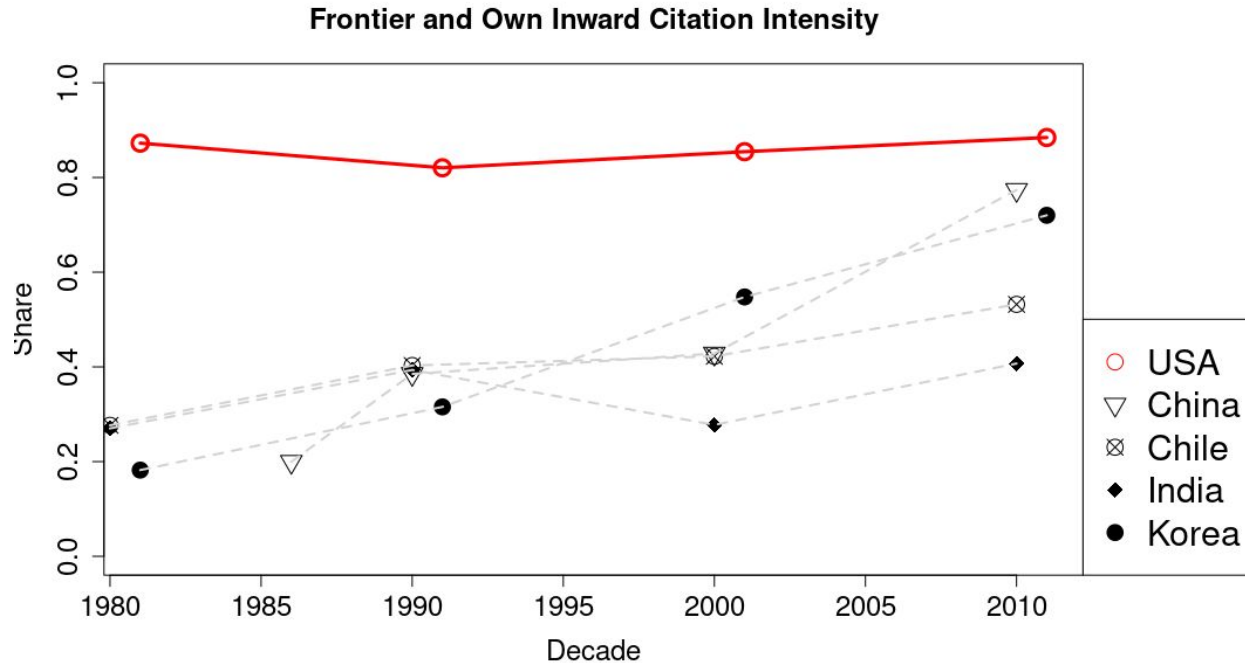


Technological Convergence: From Diffusion to Discovery

A = # Citations from Frontier to Growing Country's Patents

B = # Citations from Growing Country to Frontier's Patents

Frontier Citation Intensity = $A / (A+B)$



Concluding Remarks

- Proposed unified view to interpret income differences and growth accelerations
 - Endogenous theory of TFP connecting distortions, misallocation, innovation
- Quantified distortions across countries and over time in acceleration episodes
- Provided evidence in favor of mechanisms
 - Allocative efficiency gains
 - Improvements in firm-level TFP distribution
 - Patenting data to document protracted rise in R&D over adoption and imitation