Paper Reading Notes

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Contents

1 Trade

1.1 Buera and Oberfield (2020)

- Innovation and diffusion involving the combination of new ideas with insights from other industries.
- both gains from trade and the fraction of variation of TFP growth accounted for by changes in trade more than double relative to a model without diffusion.

1.2 Chen et al. (2022)

- Asymetric transport costs from different shipping time back and forth predicts location patterns in models with models Dixit-Stiglitz preferences.
- Armington (1969) assumption: each country produces a different good and consumers would like to consume at least some of each country's goods. No mention of comparative advantage, but combined with CES characterizes trade flows between countries.
- Dixit-Stiglitz preference: CES function
- Dixit-Stiglitz price index: bilateral prices times bilateral iceberg shipping costs. The index can be interpreted as consumer or inward market access

1.3 Amiti et al. (2020)

- US-China tariff announcements lower investment growth rate of listed US companies by 1.9% by the end of 2020
- policy-induced stock-market declines imply lower returns to capital, which lowers investment rates
- use stock market data to exactly decompose aggregate returns into those caused by common and differential effects
- q theory of investment to understand how trade shocks affect investment in a model where capital adjustment is costly

1.4 Akcigit et al. (2018a)

1.5 Fernandes et al. (2023)

1.6 Martin et al. (2023)

1.7 Demidova and Rodríguez-Clare (2009)

- Welfare: productivity, terms of trade, variety, curvature (heteorogenity across varieties)
- consumption subsidy, export tax, import tariff allows small economy to deal with two distortions and reach first-best allocation
- export subsidy generates increase in productivity, but negative on other three, decrease welfare
- import tariff improves small economy's welfare

1.8 Demidova (2017)

- Monopolistic competition with heterogenous firms, endogenous wages, non-separable, non-homothetic quadratic preferences generating variable markups
- optimal level of the revenue generating import tariff is strictly positive
- reductions in cost-shifting trade barriers are welfare-improving
- in both cases, variable markups result in negative pro-competitive effects, reducing gains from trade

1.9 Costinot et al. (2020)

- Large firms tend to export
- country maximizing domestic welfare, self-selection of heterogenous firms into exports calls for import subsidies on the least profitable foreign firms
- there is no rationale for export subsidies or taxes on the least profitable domestic firms

1.10 Atkeson and Burstein (2008)

1.11 Allen (2014)

- A perfect competition trade model embedding a process whereby heterogeneous producers engage in a costly sequential search process to determine where to sell their product.
- introducing information frictions explains roughly half the observed regional price dispersion, and improves the out-of-sample predictive power of the model

1.12 Steinwender (2018)

- Transatlantic telegraph in 1866 lowers average and volatility of the transatlantic price difference of cotton, and increases those of trade flows.
- Efficiency gains 8% of export value
- A partial equilibrium model in which exporters and storage use the latest news about a foreign market to forecast expected prices.
- Newly collected data set on cotton prices, trade and information flows from historical newspapers.

1.13 Suesse (2018)

- Relationship between prospective secessions on economic integration and growth.
- A game theory model rationalizes that regional elites have an incentive to restrict domestic trade once secession from the Soviet Union became possible.

2 Industrial Policy

2.1 Juhász et al. (2023)

2.2 Mazzucato and Rodrik (2023)

- Table of Taxonomy of conditionalities in the case studies

  - Type of firm behavior targeted: access, directionality, profit sharing, reinvestment
  - Fixed versus negotiable/ iterative conditions
  - Risks/ rewards sharing mechanism
  - Measurable performance criteria and monitoring and evaluation
- Embeddedness, autonomy and the development state matrix

2.3 Rodrik (2018)

2.4 Aiginger and Rodrik (2020)

- Chronique of industrial policy definition since 1981

2.5 McMillan et al. (2017)

- Two theories explaining growth: 1) **dual-economy.** draws distinction between agriculture as traditional and industry as modern sectors of economy. Different economic logics are at work within so cannot be lumped together. Accumulation innovation and productivity growth take place in the modern sector, the traditional sector remains technologically backward and stagnant. Labor and other resources migration rate to modern sector decides growth rate. Lewis 1954, Ranis and Fei 1961.
  2) **neoclassical growth model**. presumes different economic activity are structurally similar enough to aggregate into a representative sector. growth depends on the incentives to save, accumulate physical and human capital, and innovate by developing new products and processes. Solow 1956, Grossman and Helpman 1991, Aghion and Howitt 1992.
- two challenge: structural transformation and fundamentals. **Former**, ensure resources flow rapidly to high productivity. **Latter**, on broad and long-run growth two driving forces: quality of institutions(governance, law, biz environment) or the level of human capital(education, skills, training). Acemoglu Johnson Robinson 2001, Glaeser et al 2004.
- Results
  - Brazil and Botswana: structural change important in launching into middle-income but tiny role thereafter
  - Vietnam and Ghana: structural change significant contribution
  - India, Nigeria Zambia: structural change different way. less rapid decline in the employment share of low-productivity agriculture, exacerbated by the lack of labor-intensive manufacturing for export.
- Typology of growth patterns: structural transformation $\times$ Investment in fundamentals
- total labor productivity:$P_t = \sum_{i=1}^{n} \theta_{i,t} P_{i,t}$.
  Change in total labor productivity $\Delta P_t = \sum_{i=1}^{n} \theta_{i,t-k} \Delta P_{i,t} + \sum_{i=1}^{n} \Delta P_{i,t-k} + \sum_{i=1}^{n} \Delta \theta_{i,t} \Delta P_{i,t}$
- productivity change as sum of with-in sector change and structural change

$$\Delta P_t = \sum_{i=1}^{n} \theta_{i,t-k} \Delta P_{i,t} + \sum_{i=1}^{n} P_{i,t} \Delta \theta_{i,t}$$

3 Innovation

3.1 Aghion et al. (2001)

3.2 Prato (2022)

- Meeting rate

3.3 Bahar and Rapoport (2018)

- Proxy for knowledge diffusion: cross-country productivity spillovers leading to new exports
- 10% increase in immigration from exporters is associated with a 2% increase in the host country exporting in next decade likelihood, especially stronger for highly-skilled migrants.

3.4 Hornung (2014)

- Firm-level productivity data on Prussian manufactories in 1802 from the Register of factories in the prussian state by the Royal Prussian Privy Filing Department
- Huguenot immigration to Brandenburg-Prussia data. Rôle général des Français refugiez dans les États de la Majesté le Roy de Prusse
- population censuses for Prussian towns in 1730. Schmoller 1922
- higher share of high-skilled immigrants means higher level of local manufactory output and more technology employed

3.5 Bai et al. (2023)

3.6 Adão et al. (2020)

3.7 Liu and Ma (2021)

3.8 Kogan et al. (2017)

- Technological innovation accounts for significant medium-run fluctuations in aggregate economic growth adn TFP.
- patent-level estimates of private economic value are positively related to the scientific value of these patents
- Extended data: `https://github.com/KPSS2017/Technological-Innovation-Resource-Allocation-and-G`

3.9 Aghion et al. (2005)

- Competition discourages laggard firms from innovating and encourages neck-and-neck firms. This generates and inverted-U, together with competition on equilibrium industry structure
- average tech distance btw leaders and followers increases with competition
- the inverted-U is steeper when industries are more neck-and-neck

3.10 König et al. (2016)

- Firms endogenously choose between in-house R&D and imitation other firm's tech subject to limits of absorptive capacities to improve productivity based on profit maximization

motive

- closer to technological frontier face fewer imitation opportunities, more in-house
- BGE features persistent productivity differences even when starting from identical firms

4 Search and Unemployment

4.1 Mortensen and Pissarides (1994)

4.2 Shimer (2005)

4.3 Hornstein et al. (2011)

4.4 Lenoir et al. (2022)

- Search friction of new customers distort the allocation activities across heterogeneous producers in a Ricardian model of trade.
- Markets with high estimated frictions display less dispersion in sales btw high and low productivity firms
- Increase in the level of search frictions pushes out the least productive exporters while increases export sales at the top of the productivity distribution

5 Heterogenous Agents

5.1 Aiyagari (1994)

5.2 Krusell and Anthony A. Smith (1998)

6 Firm Dynamics

6.1 Hopenhayn (1992)

6.2 Kochen (2023)

6.3 Arellano et al. (2012)

6.4 Cooley and Quadrini (2001)

- Introducing financial-market frictions in a basic model of industry dynamics with persistent shocks
- the combination of persistent shocks and financial frictions can account for the simultaneous dependence of firm dynamics on size (once we control for age) and on age (once we control for size).

6.5 Jovanovic (1982)

- This is the seminal paper to incorporate uncertainty and learning into entrepreneurship and firm dynamics.

6.6 Klette and Kortum (2004)

6.7 Melitz (2003)

7 Uncertainty

7.1 Arellano et al. (2019)

8 Empirical

8.1 Oberfield and Raval (2021)

- Aggregate capital-labor elasticity reflects substitution within plants and reallocation across plants;
- aggregate elasticity for the U.S. manufacturing sector in 0.5-0.7, declined slightly since 1970.

8.2 Zhang and Wang (2023)

- Employers in higher social trust societies are more attentive to applicants' potential, focusing more on their foundational skills than readiness like advanced skills
- bilateral trust measures
- 60 million job postings from 28 EU countries from 2018 to 2021 provided by Lightcast, formerly known as Burning Glass Technologies
- multinational corps from Orbis global database matching based on employer name, industry and location
- ESCO is a multilingual classification that identifies and categorize skills and occupations relevant to the EU labor market
- social trust measured by nationally representative surveys European Values Study (EVS)

8.3 de Souza et al. (2022)

- DiD + trade model with input-output connections where sanctioning countries maximize income and minimize Russia's income
- small willingness to pay: 20% uniform tariff against all Russian products
- embargo on mining and energy and 50% on others is most cost-efficient

8.4 Diao et al. (2021)

- The poor employment performance of large firms is related to use of capital-intensive techniques associated with global trends in technology.
- larger firms that exhibit superior productivity performance do not expand employment much
- small firms that absorb employment do not experience any productivity growth.
- Relatively large firms in the manufacturing sectors of Tanzania and Ethiopia are significantly more capital-intensive than what would be expected on the basis of the countries' income levels or relative factor endowments

- Reasons: 1, advanced economies develop labour saving technology; 2, globalization and the spread of global value chains has had a homogenizing effect on technology adoption, and the imperative of competing with production in richer countries at similar quality level makes it difficult to undertake large shifts in techniques
- New panels of manufacturing firms: Tanzania 2008∼ 16, Ethiopia 1996∼ 2017

8.5 Laplane and Mazzucato (2020)

- Policies that explicitly take into consideration the risk-taking entrepreneurial role of the state, can positively affect reward distributions and favor more equitable public| private partnerships.
- Sharing rewards enables a more portfolio mindset, where the upside is used to cover the downside, and more stable funding to serve citizens' needs. It also signals the value and legitimacy of the state's role.
- Table of existing policy instruments for financing innovation that allow for profit-Sharing
- Table of the legal underpinning of the distribution of rewards in public|private partnerships parasitic versus symbiotic ecosystems

8.6 Rodrik (2016)

- Developing countries only converge to rich country income levels conditional on country-specific disadvantages like institutions or poor geography being overcome.
- Matrix of structural change and investment in fundamentals
- much of recent performance in Africa due to advantageous external context and making up of lost ground
- structural change and industrialization operating at less than full power
- should there be a miracle, it should be agriculture or service led than traditional ones.

8.7 Aghion et al. (2018)

- inventor collect 8% of total private return
- entrepreneurs get over 44%
- blue-collar get 26%
- the rest goes to white-collar workers
- entrepreneurs have negative returns prior to patent application but subsequently become highly positive
- Finland data

8.8 Akcigit et al. (2018b)

- Higher taxes negatively impact the quantity and the location of innovation, but not average innovation quality.
- state-level elasticities to taxes are large and consistent with the aggregation of the individual level responses of innovation produced and cross-state mobility

- corporate taxes have special effect on corporate inventor's innovation production and mobility
- personal income tax affects quantity of innovation and mobility of inventors.
- panel of patent inventors since 1920
- historical state-level corporate tax database with corp tax rates and tax base information
- existing: state-level personal income taxes

8.9 Munch and Schaur (2018)

- Export promotion increases sales, value-added, employment, and value-added per worker.
- For small firms, summing expenditures on export promotion, subsidies, and tax distortions, the gain in value-added is roughly three times higher than the direct costs of export promotion.

9 Migration

9.1 Docquier et al. (2015)

- Complete liberalization of cross-border migration increase world GDP by 11.5-12.5% in benchmark model, and 7.0-17.9% in robustness analyses.

9.2 Parsons and Vézina (2018)

- The exodus of Vietnamese Boat People to US evidence that migrant networks promote trade by reducing trade costs because they have knowledge of their home country's language, regulations, market opportunities and informal institutions. Migrants mostly facilitate bilateral trade with developing countries.
- Doubling migrants leads to 45% to 138% increase in state exports.
- First evidence of positive link between migration and trade with a natural experiment.

9.3 BURCHARDI et al. (2019)

- Doubling the number of residents with ancestry from a given foreign country relative to the mean increases the probability that at least one local firm engages in FDI with that country by 4 percentage points.
- This effect is primarily driven by a reduction in information frictions, and not by better contract enforcement, taste similarities, or a convergence in factor endowments.

9.4 COHEN et al. (2017)

- Firms are significantly more likely to trade with countries that have a large resident population near their firm headquarters, and that these connected trades are their most valuable international trades
- Firms are also more likely to acquire target firms, and report increased segment sales, in connected countries

9.5 Burchardi and Hassan (2013)

- Personal relationships for non-economic reasons can be an important determinant of regional economic growth.
- HHs in West Germany with East ties experience rise in incomes and increases returns to entrepreneurial activity, share of HHs as entrepreneurs, and likelihood of West German firm investing East regionally.

10 Tax

10.1 Zucman (2014)

- 20% of US corporate profits now booked in tax havens. Over 15 years, effective corporate tax rate of US companies declined from 30 to 20p, 2/3 of the decline attributable to increased profit-shifting to low-tax jurisdictions.

11 AI

11.1 Economic Essence

As a technology:

- As LLM that generates contents (Felten et al. (2023),Eloundou et al. (2023)) Automation technique other than robots: more influence on higher skill demand. Causing cross generation inequality (Katz and Murphy (1992), Sachs and Kotlikoff (2012), Hémous and Olsen (2022), Acemoglu and Restrepo (2018)) and drop in labor share of income (Mookherjee and Ray (2022), Shimizu and Momoda (2023)) by augmenting capital (Zhang (2023)). In capital-skill complementarity (Ohanian et al. (2023))
- Reversely, patent data shows lower skill wage rise encourages and higher discourages automation innovation. (Hémous et al. (2019))
- General purpose technology: inherent potential for technical improvements, pervasiveness and innovational complementarities (Bresnahan and Trajtenberg (1995), Agrawal et al. (2019), Agrawal et al. (2023), Goldfarb et al. (2023), Bresnahan (2023), Eloundou et al. (2023))
- More widely speaking, the Schumpeterian idea of creative destruction (Acemoglu (1998), Acemoglu (2002), Aghion et al. (2018),)

11.2 Productivity

- Empirical
  GenAI can improve productivity, especially for those under-skilled tasks, 14% by Brynjolfsson et al. (2023) (Damioli et al. (2021)). 0.8sd decrease in time taken and 0.4sd raise in output quality in college level writing tasks (Noy and Zhang (2023)). It also doubles the speed of software engineers coding speed (Kalliamvakou (2022)). But does not change the direction of technical progress in the applications of ICT (Bresnahan (2021))
- Model
  Gries and Naudé (2020) build an endogenous growth model with task approach and hetero HH, finds that 1, AI decrease labor income share 2, with high elasticity of substitution, AI

reduce aggregate demand and slow down GDP growth. Berg et al. (2018) presents a model takes robot capital substitutable with human labor, and only capitalists and skilled workers save. They show in various scenarios automation good for growth and bad for equality (real per capita income rises 30-240% in long run). Lu (2021)'s three sector endo growth model shows growth increase in transitional dynamics, but not necessarily beneficial to HH in short and long run.

11.3 Labor

- Empirical
  Eloundou et al. (2023) finds that 80% of US workforce have 10% tasks affected, and 19% see 50%. Higher-income, higher education, lower experience jobs more exposed. 15% workers faster with LLM, and 47%-56% with LLM-embedded tools. Chen et al. (2023) apply their work on China labor market. This weakens job creation stimulus (Ebeke and Eklou (2023)). On the other hand, AI reduces the skill premium as long as it is more substitutable for high-skill workers than low-skill workers are for high-skill workers. (Bloom et al. (2023)) but increase those with AI-skill (11% Alekseeva et al. (2021)). In line with a rich body of literature on the impact of automation as polarization (Autor et al. (2003), Autor et al. (2006), Van Reenen (2011), Brynjolfsson et al. (2023)) and high-tech across generations (Adão et al. (2020)). Korinek (2023) suggests economists can be 10-20% more productive in ideation, writing, background research, data analysis, coding, and mathematical derivations (among other specific impacts research Felten et al. (2023), et al. (2022), Mollick and Mollick (2022))
- Model
  Acemoglu and Restrepo (2018) endogenizes, in a task-based model, capital accumulation, direction of research toward automation and creation of new tasks and argues that if long-run rental rate of capital relative to wage is sufficiently low, all tasks will be automized, otherwise there exists a stable BGP. Intuition is that automation reduces labor cost, discouraging future automation. Inequality increases during transitions driven by faster automation and the introduction of new tasks. (see also Acemoglu and Autor (2011), Basso and Jimeno (2021), Afonso et al. (2023))

11.4 Inequality

- Empirical
  Within cohort: Acemoglu and Restrepo (2022). Cross generation: Adão et al. (2020). Globalization: reverse the gains of developing countries by saving labor and resource, giving rise to winner-takes-all dynamics. Tech-skill mismatch in labor cause TFP differences across countries (Acemoglu and Zilibotti (2001), Zeira (2006), Korinek and Stiglitz (2021))
- Model
  Inequality increase in the US labor market reflects the automation and computerization of routine tasks, favoring high-skill workers (Autor et al. (2003)) and by raising returns to wealth (Moll et al. (2022)). Recent innovations caused occupational composition and training favorable for younger and against older (Adão et al. (2020), Prettner and Strulik (2020)). Cong et al. (2021)'s endogenous growth model shows that less developed economies with low growth at the dawn of data economy may face a new form of poverty trap that potentially warrants interventions.

12 Data

12.1 Macro

- Groningen Growth and Development Centre: indicators of growth and development https://www.rug.nl/ggdc/

12.2 Medical

- Medical Expenditure Panel Survey https://meps.ahrq.gov/mepsweb/
- FDA Orange book https://www.fda.gov/drugs/drug-approvals-and-databases/approved-drug-product

12.3 Trade

- GlobalTradeAlert https://www.globaltradealert.org/
- Cboe Trade Alerts https://www.cboe.com/services/analytics/tradealert/institutions/
- UN Comtrade: product level bilateral trade data https://comtradeplus.un.org/TradeFlow
- Global Antidumping database by Bown, Chad P. https://www.chadpbown.com/global-antidumping-databas
- OECD's Inter-Country Input-Output (ICIO) tables that maps flows of production, consumption, investment within countries and flows of international trade in goods and services btw countries, by economic activity and by country https://www.oecd.org/sti/ind/inter-country-input-output-tables.htm
- Feenstra et al. (2002) https://papers.ssrn.com/sol3/papers.cfm?abstract_id=362069
- Copenhagen Polis Centre of ancient greek cities and people https://polis.stanford.edu/

12.4 Legal

- LobbyView https://www.lobbyview.org/
- QuantGov https://www.quantgov.org/

12.5 Innovation

- Orgiin IP Solutions https://origiin.com/
- PATENTS-ICRIOS DATABASE https://icrios.unibocconi.eu/resources/databases/patents-icrios-database
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12.6 Firm

- FactSet Supply Chain Relationships https://wrds-www.wharton.upenn.edu/pages/about/data-vendors/factset/
- Cortellis https://access.clarivate.com/login?app=cortellis
- Westlaw Edge https://legal.thomsonreuters.com/en/products/westlaw-edge
- MIDAS https://www.iqvia.com/solutions/commercialization/brand-strategy-and-management/market-measurement/midas

- Namsor https://namsor.app/
- GGDC 10 Sector database
- expanded africa sector database
- UNIDO's Indstat2

12.7 Transport

- TUD19: multi-city traffic dataset https://utd19.ethz.ch/; https://github.com/ambuehll/UTD19
- Ship tracking data Kpler https://www.kpler.com/product/maritime/ship-tracking

12.8 Migration

- Gallup Global Researchhttps://www.gallup.com/analytics/318875/global-research.aspx
- Gallup Country Data Set https://www.gallup.com/services/177797/country-data-set-details.aspx
- Bilateral migration data https://elibrary.worldbank.org/doi/epdf/10.1596/1813-9450-6863

12.9 Others

- GeoDist on bilateral relationships such as common coloniser, colony-coloniser, common language, religion. http://www.cepii.fr/CEPII/en/bdd_modele/bdd_modele_item.asp?id=6

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