

THE BRICS: WHAT DOES ECONOMIC HISTORY SAY ABOUT THEIR GROWTH PROSPECTS?

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1. INTRODUCTION

- O'Neill (2001) concerned about population-driven GDP growth in BRICs reducing impact of fiscal & monetary policies in rich western countries on global GDP
- Subsequent discussion of BRICs in West has often focused on fears of being overtaken in terms of GDP per capita levels
- This talk focuses on the latter, aiming to bring insights from economic history to current policy debates

Introduction

- Growth accelerations & growth declines analysed systematically by economists on basis of large sample of countries only for post-1950 period
- 2 questions:
 - What factors lead to sustained growth accelerations? (Hausman, Pritchett & Rodrik)
 - What factors lead to major growth declines? (Eichengreen, Park & Shin)

Key findings

- Systematic measurable variables have low explanatory power. Idiosyncratic factors matter
- No fundamental change in economic leadership since WW2
- Catching-up sometimes stalled a long way from frontier, other times close to frontier
- Assessment of prospects for BRICs therefore requires a historical approach covering a long time span

2. REVERSALS OF FORTUNE IN HISTORY

1. Europe's Little Divergence: North Sea Area (GB/Holland) overtaking Mediterranean Europe (Italy/Spain)
2. Asia's Little Divergence: Japan overtaking China
3. Great Divergence: Europe overtaking Asia
4. North Atlantic Divergence: US overtaking UK

Measuring economic growth before 1870

- Now possible to provide historical national accounts on an annual basis for some countries reaching back to c.1300 AD, derived from data collected at the time
- This new work presents quite a different picture of development of European and Asian nations from Maddison, whose pre-1820 estimates of per capita GDP were based largely on conjecture and provided only for a small number of benchmark years

Measurement

- Medieval and early modern European and Asian nations more literate and numerate than is often thought
- Left wealth of data in documents such as: government accounts, customs accounts, poll tax returns, parish registers, city records, trading company records, hospital and educational establishment records, manorial accounts, probate inventories, farm accounts, tithe files and other records of religious institutions

Measurement

- With national accounting framework and careful cross-checking, possible to reconstruct population and GDP back to medieval period

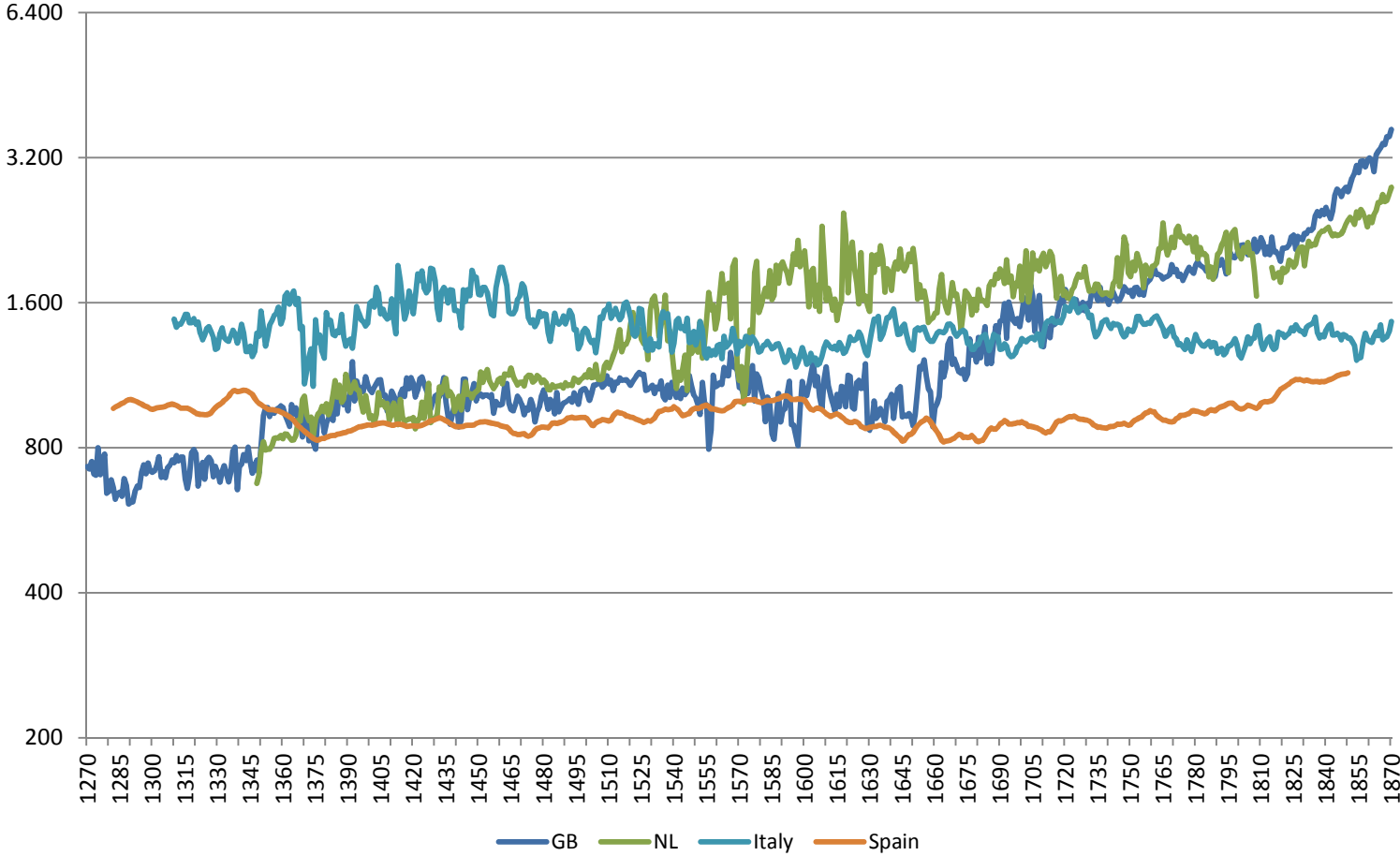
2.1 EUROPE'S LITTLE DIVERGENCE

- Table 1: W. Europe already well above bare bones subsistence (\$400) by late Middle Ages
- Average incomes in England and Holland around \$800 on eve of Black Death in 1348
- Per capita incomes higher in Spain and nearly twice this level in Italy
- Reversal of fortunes: by 1800, p.c. incomes nearly twice as high in GB and NL as in Italy and Spain

TABLE 1: GDP per capita levels in Europe (1990 international dollars)

	England/ GB	Holland/ NL	Italy	Spain
1086	754			
1270	759			957
1300	755		1,482	957
1348	777	876	1,376	1,030
1400	1,090	1,245	1,601	885
1450	1,055	1,432	1,668	889
1500	1,114	1,483	1,403	889
1570	1,143	1,783	1,337	990
1600	1,123	2,372	1,244	944
1650	1,100	2,171	1,271	820
1700	<u>1,630</u> 1,563	2,403	1,350	880
1750	1,710	2,440	1,403	910
1800	2,080	<u>2,617</u> 1,752	1,244	962
1820	2,133	1,953	1,376	1,087
1850	2,997	2,397	1,350	1,144

FIGURE 1: Real GDP per capita in European countries, 1270-1870 (1990 international dollars, log scale)



North Sea Area vs Mediterranean

- First turning point was Black Death. England and Holland received permanent boost to p.c. GDP. Italy received only temporary boost and Spain no boost at all
- Second turning point around 1500 as new trade routes opened between Europe and Asia around southern Africa and between Europe and Americas across Atlantic

North Sea Area vs Mediterranean

- These shocks led to NSA overtaking Mediterranean Europe due to:
 - Sectoral diversification: shift of labour within agriculture from arable to livestock activities and from agriculture to industry and services
 - Institutions: state strong enough to ensure integrated market (fiscal state) but not too strong to expropriate merchant class (AJR constraints on executive)
 - Quantity & quality of labour supply: industrious revolution (increased labour supply with Reformation) and human capital (late marriage & lower fertility)

2.2 ASIA'S LITTLE DIVERGENCE

- China was Asia's p.c. GDP leader at start of 2nd millennium, but then on a downward trajectory from high-point during Northern Song Dynasty
- Japan had very low levels of p.c. GDP at start of 2nd millennium, then experienced episodic growth phases 1450-1600 and after 1730, with plateau 1600-1730
- Japan followed similar path to GB and Holland, but at slower rate of growth

TABLE 2: GDP per capita levels in Asia (1990 international dollars)

	Japan	China	India
725	531		
900	459		
980		1,247	
1020		1,518	
1050		1,458	
1086		1,204	
1120		1,063	
1150	490		
1280	532		
1300			
1400		960	
1450	533	983	
1500		1,127	
1570		968	
1600	605	977	682
1650	631		638
1700	607	841	622
1750	627	685	573
1800	710	597	569
1850	790	594	556

Asia's Little Divergence

- Why did Japan overtake China?
 - Sectoral diversification: growing urbanisation during Japan's first growth phase before 1600, proto-industrialisation during second phase
 - Institutions: Chinese fiscal state at peak during Northern Song dynasty, growing in Japan
 - Quantity & quality of labour: industrious revolution first used to describe Tokugawa Japan; age of first marriage for females much higher in Japan than in China

2.3 THE GREAT DIVERGENCE: EUROPE AND ASIA

- Putting together European and Asian Little Divergences sheds light on Great Divergence between Europe and Asia
 - China and India followed similar trajectory to Italy and Spain, with stagnation and decline
 - Japan followed upward trajectory of GB and Holland
 - But Japan started from lower level than GB, grew more slowly and achieved transition to MEG much later
 - Hence the 2 continents diverged as reversals of fortune occurred within each continent

TABLE 3: GDP per capita levels in Europe and Asia (1990 international dollars)

	England/ GB	Holland/ NL	Italy	Spain	Japan	China	India
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1020						1,518	
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2.4 THE NORTH ATLANTIC DIVERGENCE: US AND UK

- Overtaking of UK by US in late C19th often characterised as result of Second Industrial Revolution, or emergence of science-based industry and mass production technology in US
- Table 4: sectoral patterns of comparative labour productivity suggest more complex story

TABLE 4: Comparative US/UK labour productivity levels by sector, 1869/71 to 2007 (UK=100)

	Agriculture	Industry	Services	Aggregate economy
1870	86.9	153.6	85.9	89.8
1890	102.1	164.1	84.2	94.1
1910	103.2	193.2	107.4	117.7
1920	128.0	198.0	118.9	133.3
1929	109.7	222.7	121.2	139.4
1937	103.3	190.6	120.0	132.6
1950	126.0	243.5	140.8	166.9
1973	131.2	214.8	137.4	152.3
1990	151.1	163.0	129.6	133.0
2007	196.4	166.2	125.1	127.7

US vs UK

- At whole economy level, c. 1870, aggregate labour productivity in US about 90 per cent of UK level, and US overtook UK during 1890s and continued to forge ahead to 1950s
- Since then, slow process of UK catching-up, but by 2007 still substantial aggregate Anglo-American labour productivity gap of more than 25 per cent
- Sectoral patterns of comparative productivity performance quite varied

US vs UK

- Y/L in industry already substantially higher in US than in UK by late C19th
- Although there was an increase in scale of US Y/L lead in industry before WWI, this largely due to non-manufacturing industries, esp. mining, and utilities
- US caught-up with and overtook UK in aggregate Y/L largely by shifting resources out of agriculture and improving comparative Y/L performance in services

US vs UK

- Although US has improved its Y/L performance relative to Britain in agriculture, there has also been a dramatic decline in importance of agriculture
- In 1870, agriculture accounted for half of all US employment, but by 2007 this had fallen to under 2%
- Shift out of agriculture had occurred much earlier in UK (22% by 1870, 5% by 1950)

US vs UK

- US overtaking as labour shifted away from low value-added agriculture reinforced by:
- Institutions: US state strong enough to create large unified market, but with strong executive constraints built into constitution
- Quantity & quality of labour: industrious revolution in form of high US participation rates and long hours; human capital boosted by high school movement and first mass higher education

3. FAILED CATCHING-UP

- These well-known cases of overtaking may make successful rise of BRICs to global economic leadership seem inevitable
- But these cases subject to selection bias. Need also to consider cases of failed catching-up
 - Argentina, 1870s to 1920s
 - Russia, 1920s to 1950s
 - Japan, 1950-1990

3.1 THE RISE AND DECLINE OF ARGENTINA

- Argentina was spectacular success story from 1870s to late 1920s, catching-up rapidly on developed countries of Europe and USA
- Table 5: on eve of WWI, Argentina enjoyed p.c. income over 70% of US level, on a par with European countries such as France and Germany, and nearly 3 times as rich as Japan

TABLE 5: GDP per capita, 1870-2005 (1990 international dollars)

	USA	Argentina	Brazil	Japan	Russia	China	India
1870	2,445	1,468	713	737		530	533
1913	5,301	3,797	811	1,387	1,414	552	673
1929	6,899	4,367	1,137	2,026	1,386	562	728
1950	9,561	4,987	1,672	1,921	2,841	448	619
1973	16,689	7,962	3,880	11,434	6,582	838	853
1990	23,201	6,542	4,920	18,789	7,779	1,871	1,309
2010	30,491	10,256	6,879	21,935	8,660	8,032	3,372

Argentina

- Factors behind growth acceleration:
 - Structure: success based on exporting primary products to Europe and US during period of global economic integration, but little diversification
 - Institutions: Argentina enjoyed confidence of international investors through orthodox fiscal and monetary policies (limited budget deficits, gold standard)
 - Quantity & quality of labour: attracted flow of immigrants from Europe and capital to finance necessary investments

Argentina

- Factors behind growth reversal after 1929:
 - Shock of collapse in commodity prices created serious BOP problem given structure
 - Institutions not strong enough to deal with problems
 - Led to populist government and ISI policies, common in Latin America: devaluations, tariffs and quantitative restrictions
- LAs share of world exports declined sharply, especially as world reglobalised from 1950s

3.2 RUSSIA AND THE SOVIET EXPERIMENT

- Russia often characterised as beginning process of catching up on West in late C19th, supplying agricultural produce to Europe, similar to Argentine development
- But Russian performance not exceptional at this time, and after disruption of Revolution and civil war, p.c. income in 1929 still below level of Argentina in 1870 (Table 5)

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Russia

- Catching-up accelerated under Stalin's forced industrialisation, 1928-1940. Slowdown after WW2 and eventually system collapsed.
- Allen (2003) argues for favourable assessment of period 1928-1940 despite human costs of collectivisation and political repression
- Structure: although urban real wages stagnated, many Russians experienced rising consumption as they moved from countryside to city, while some urban residents gained as they moved to higher wage occupations

Russia

- Institutions: Relationship between institutional regime and productivity performance historically contingent
- Central planning allowed Soviet industry to improve comparative productivity position temporarily during era of mass production
- Central planners could mimic Fordist methods but unable to cope with requirements of flexible production technology during 1980s

Russia

- Ensuing crisis contributed to end of communist rule across Eastern Europe (Broadberry and Klein, 2011)
- Quantity & quality of labour: Stakhanovite movement led to an industrious revolution, while spread of education to women led to demographic transition

3.3 JAPAN AND THE WEST

- Although Japan overtook China during C18th, Japan was still falling behind the West until institutional reforms of 1868 Meiji Restoration
- Japanese catching-up stalled after 1929, but resumed after 1945
- Second period of catching-up followed by another period of reversal during 1990s and 2000s

Japan

- Structure: Japanese catching-up led by manufacturing; but still nearly half labour force in agriculture in 1950
- Institutions: well suited to catching-up on basis of industry, less well suited to forging ahead on basis of services
- Quantity & quality of labour: 'industrious revolution' first coined to describe Japan; high age of marriage stimulated human capital accumulation

4. PROJECTIONS

- Major reversals of fortune rare in last millennium and little sign of overtaking in prospect
- Within incomplete catching-up framework, still useful to distinguish between examples like Japan, which stalled close to frontier, and other cases like Argentina and Russia, which failed much earlier

Projections

- Need to consider BRICs separately with regard to GDP per capita levels and extent of catching-up, since they have little in common beyond having relatively large populations

China

- Fogel (2010) caused a stir by predicting Chinese GDP of \$123 trillion in 2040 by simply projecting an annual growth rate of 10.8% for 30 years
- This is based on naïve extrapolation of recent trends and is surely too optimistic
- BRICs methodology of allowing for catching-up and real exchange rate effects is also at optimistic end of spectrum
- Chinese catching-up may stall a long way from frontier because of structure and institutions

China and India

- TABLE 6 (from Bosworth and Collins): TFP growth much less impressive than output growth or even labour productivity growth
- Indian TFP growth 1978-2004 was 1.6%
- Chinese TFP growth was more impressive at 3.6%, but this is still not out of line with previous experience in Japan and Europe
- Chinese growth led by manufactured exports, Indian growth by tradable services

TABLE 6: Sources of growth in China and India, 1978-2004 (% p.a.)

	Output per worker	Contribution to output per worker		
		Physical capital	Education	TFP
Total GDP				
China	7.3	3.2	0.3	3.6
India	3.3	1.3	0.4	1.6
Agriculture				
China	4.3	2.3	0.3	1.7
India	1.4	0.3	0.3	1.7
Industry				
China	7.0	2.2	0.3	4.3
India	2.5	1.5	0.3	0.6
Services				
China	4.9	2.7	0.3	1.8
India	3.5	0.6	0.4	2.4

China and India

- Chinese TFP growth was most impressive in industry, at 4.3% p.a. TFP growth much slower in agriculture, but also in services
- Sectoral pattern of TFP growth very different in India, where TFP growth in industry very slow at 0.6%
- By contrast, Indian TFP growth in services impressive at 2.4%, higher than in China
- Indian sectoral TFP growth pattern looks more modern, even if aggregate growth slower

CHINA

- Although China's per capita GDP is about 25% of US level, rapid growth has now been sustained over 3 decades
- Remarkable achievement when compared with rapid collapse of other reforming socialist economies
- System of regionally decentralised authoritarianism (Chenggang Xu) has worked relatively well, despite state withholding secure property rights
- This explained by competition between provincial leaders with responsibility for initiating and coordinating reforms, providing public services and enforcing law within their own jurisdictions

CHINA

- But as China approaches frontier, further reforms will be needed
- RDA has effectively substituted for lack of secure property rights in early stages of catching up, when objectives of modernisation are clear
- This is unlikely to be sustainable as private sector grows, objectives multiply and pressures for democracy grow

INDIA

- India is the poorest BRIC country, with a per capita GDP of around 10% of the US level
- Institutions: there are real concerns about the level of corruption in India
- However, structural factors look more favourable: India is the only BRIC country where success driven more by services than by industry
- This bodes well for the future, as a key characteristic of many rich countries is their strong performance in the services sector

RUSSIA

- As the richest BRIC country, Russia has a per capita GDP of about 30% of the US level
- Institutions: although current era of rapid growth has taken place within context of market economy, Russia's authoritarian government provides only selective enforcement of property rights
- Structure: economy is highly dependent on oil & gas
- If catching up is to continue in Russia, reforms will be needed to ensure more transparent rule of law and more diversified structure

BRAZIL

- Brazil's GDP per capita is around 20% of US level
- Brazil shared in Latin American catching up growth from 1870s to 1920s, which stalled with turn inwards and ISI policies
- Recent growth looks more sustainable in long term perspective despite short term set backs: more liberal institutional framework and strong investment in human capital

5. GENERAL POLICY CONCLUSIONS

- (1) History matters: shifting competitive advantage between nations played out over very long periods
- (2) Major reversals of fortune relatively rare in the last millennium
- (3) Catching-up not bound to continue automatically once started
- (4) Need to distinguish between policies to get growth started and policies to maintain growth
- (5) Tension between historical context and general conclusions
- (6) Institutions must be stable enough to foster long-term growth but flexible enough to cope with changing circumstances

POLICY CONCLUSIONS FOR BRICs

- Richest BRIC country is Russia, at 30% of US p.c. GDP level, in 2nd phase of catching-up. Need reforms to ensure more transparent rule of law
- China's p.c. GDP at 25% of US level, has grown rapidly for 3 decades with RDA. Unlikely to be sustained as private sector grows, objectives multiply and pressures for democracy grow

POLICY CONCLUSIONS FOR BRICs

- India is poorest BRIC with p.c. GDP 10% of US level. Concerns about corruption, but India is only BRIC where key driver of success is services rather than industry
- Brazil is at 20% of US level. Second catching-up phase, looks more sustainable in more liberal institutional framework, despite recent setbacks