

Challenges of globalization IX

I. The economic front of globalization

1. Optimistic view of globalization. The optimistic view contends that continued technological progress is possible and that is enough, through permanent economic expansion, to deal with distributional and stability problems. This view seems to rely on the naïve belief in a benevolent invisible hand: left by itself, humanity unintendedly will take good care of itself. The tenet is that competition (for resources, markets, power...) is always and everywhere good. This view emphasizes the importance of the economic dimension of globalization.

2. Pessimistic view of globalization. The pessimistic view claims that many fronts may potentially put a traumatic stop to globalization.

(1) All technologies have unforeseen unintended consequences, some of which could be very damaging (devastating even?) and impede the continuation of technological progress (climate change, ecological catastrophe). And despite conceding the viability of an indefinite technological progress, there is the likely possibility that technology will get out of control and become autonomous of humanity.

(2) It remains to be proved that a planet with a finite amount of material resources can sustain technological progress forever.

(3) Even if the adverse effects of (1) and (2) are neutralized, technological solutions do not operate in a social vacuum: social institutions (social technologies) must be devised, implemented and shown to be durable to deal with the social problems created by new technologies and expanding economic processes.

(4) Finally, granting that the technological, environmental and social obstacles represented by (1), (2) and (3) are overcome, there is a final obstacle: humanity has not so far made the moral progress equivalent to the technological (or even the institutional) progress made so far (the best minds are selected to carry out technological and scientific activities but apparently not to rule people). States and corporations (the main players in globalization) are not in charge of the intellectual more capable nor the morally more virtuous individuals. If globalization is not subject to control, humanity is making a risky bet on its survival (to remain on a run-away train). If the decision is to control the globalization process, it is yet to be proved that the controllers will subordinate personal, national or short-run interests to global and long-run interests. Selfish, myopic and dishonest individuals have shown themselves to be better players in the power game than altruistic and virtuous people. Hence, those more likely to drive the global vehicle are the least capable of driving it safely.

The pessimistic view regards cooperation as the only strategy for long-run survival at the same time that sadly realizes that we have not yet learned how to cooperate at a global scale (and is unlikely that we will ever do: history shows that divergences are ultimately solved by force not by pact). This view emphasizes the importance of the political dimension of globalization.

3. Global forces. There are at least four forces/events that, in the last decades, have been shaping the future. They are listed next in terms of the time involved in their development. (1) **The fall of the Soviet Union.** This left the US without a global challenger to its hegemony. (2) **Globalization.** In part facilitated by (1), global networks of almost everything have been created or expanded: goods, money, people, information, communication. (3) **The rise of China.** China's rise shows that development is a coevolutionary process between state and markets in which each interacts and adapts to the other. Neither growth nor good governance comes first. Markets may/should start operating with weak institutions but, in exchange, adaptability, flexibility, improvisation and experimentation have to be accepted, promoted and rewarded. (4) **A global demographic shift.** Over the last five decades most countries have experienced a baby boom

followed by a baby bust. The result is that, for the first time, the average age of population has been rising. There is no past experience of a society consisting of an aging population.

4. Globalization is an asymmetric process (leading to differentiated outcomes). Rich countries are in a better disposition to rip the benefits of globalization. The preconditions for the success of globalization are more likely to be more easily satisfied by the rich countries: physical, educational and social infrastructure (transportation networks, human skills, trust, political institutions...). These preconditions are also necessary to produce high-reputation goods (positional goods: trade in services, decommodified goods, currencies), the type of goods that are becoming increasingly important to benefit from globalization. Reputation is the key competitive factor in a globalized economy and is not subject to the traditional analysis based on comparative advantages. There is an entry cost to benefit from globalization that the poorer countries cannot pay. In view of this, globalization seems to bestow its benefits asymmetrically, delivering disproportional trade benefits to the richer countries.

5. The new poverty trap of current globalization. This trap is the result of lacking adequate physical infrastructures, capital stock, educational achievement, appropriate institutions, governance skills and ability to control the domestic macroeconomic fundamentals in the presence of free flows of international capital. It also contributes to the trap the enforcement of an institutional international order that favours the rich: transformation of global competition into positional competition (more importance of the trade in services and decommodified goods) and legal architecture that reinforces the leaders in the positional competition (protection to intellectual property rights and to the free mobility of capital).

6. Two views on the benefits and costs of globalization. Critics: globalization has exploited people in developing countries, caused massive disruptions to their lives and produced few benefits in return. Supporters: reductions in poverty achieved by countries which have embraced integration with the world economy, with China and India being the current poster-countries of such success

Yotopoulos, Pan A.; Donato Romano; eds. (2007): *The asymmetries of globalization*, Routledge, London and New York (especially chapter 10: "What have we learned about globalization?").

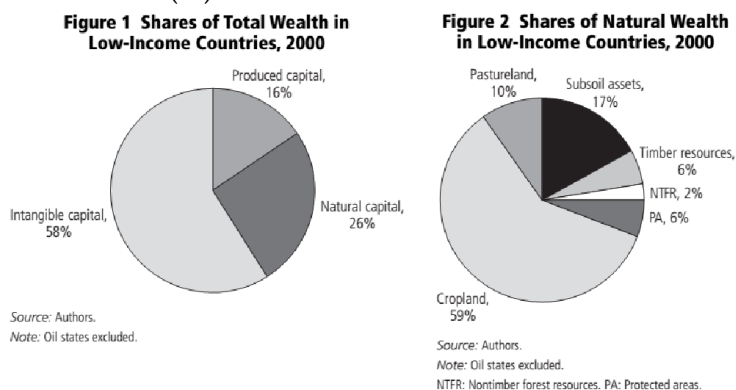
7. Globalization as an egg-chicken problem (Lindsey, 2001). View 1 (popular view): globalization occurred first and that forced governments to adopt pro-market policies and reforms. View 2: globalization has been a deliberately chosen response to failures of centralization. The reaction to the problems caused by those failures was the removal of controls over the economy (economic liberalization). In this view, governments were not forced to accept market-friendly policies; rather, it was the exploration of the pro-market alternative that has made globalization possible. Causality then runs back-wards: pro-market policies and reforms came first and globalization was the consequence.

8. Global markets create global tensions. Global markets are engines of creative destruction, generating progress through cycles of expansion and contraction of economic activity (economic crises) and financial speculation (financial crises). In this global markets resemble national markets. The difference is one of scale: there is no isolated place where to seek protection from the activity of global markets. Global capitalism delivers prosperity by destroying occupations, industries, sectors, countries and ways of life. One of the victims of globalization is the career: middle-class worker can no longer occupy their working lives with a single vocation. Globalization is also a threat to the peace between states: lacking institutions of global governance, states struggle for the control of natural resources.

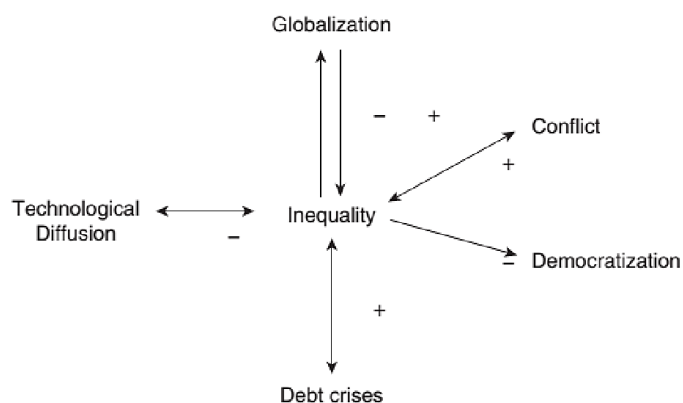
9. Globalization does not imply homogeneity, uniformity or cultural convergence. Globalization is not an end-state towards which all economies are converging or will converge. The increasing global interconnection of economic activity accentuates the unevenness of international development:

developing (peripheral) economies become more dependent on investment from developed (core) economies. Hierarchical relations between states are not disappearing: they are transformed. There are also dimensions of society that resist the impact of global markets: local realities and cultures are modified by contact with the rest of the world, but not necessarily uniformized or homogenized. The local has the opportunity to have a global reach rather than the global dissolves the local. Instead of stimulating cultural convergence, globalization makes cultural differences more evident and contributes to reinforce/deepen the differences. The lack of a common global language encourages communications media to focus on specific cultural and linguistic groups, contributing to create barriers between them. Cultures (and religions) are still segmented. New forms of capitalism are created by putting in contact global markets with local business cultures.

10. Globalization questions. Who is right in their perception of globalization, the hyperglobalizers (utopians) or the globalization sceptics? Are the latter correct in not considering that globalization has made the world economy radically different from any international economy that has existed. Are utopians just presenting fantasies and illusions as realities? Is the current globalized/international market rather orderly or disorderly? Today's global economy is the result of (i) an unceasing stream of new technologies, (ii) unfettered market competition and (iii) weak or fractured social institutions. Since no one is in charge of the process, what ensures that it will not get out of control? For low-income countries, the figures on the right show: (i) that having natural capital a larger share of total wealth than produced capital, managing natural resources appears to be a key strategy of a development policy; and (ii) that intangible capital (human capital and institutional quality) is the preponderant form of wealth.



11. North-South Gap (North-South Divide). Fact that most rich and developed countries lie above the equator and most of the least developed and poor countries lie below. So far there is no solid evidence of a substantial move towards global convergence (apart from already affluent economies). The world still appears divided between a minority of rich countries (the Pacific North) and a majority of poor or semi-poor countries (the conflictual South). The sketch on the right (taken from Thompson and Reuveny, 2010, p. 3) summarizes the basic processes that contribute to preserve the North-South divide ('-' means negative relationship, '+' positive relationship).



12. Is globalization consolidating the North-South divide (the rich-poor dichotomy, the centre-periphery division) created by the Great Divergence? Since the development of the rich countries depend on an increasing use of resources, is it not in the interest of the richer countries to keep the poorer countries poor and weak, so that it will be easier to take from them the resources the rich countries need?

13. The Earth at night. Take any composite image showing simultaneously all the continents at night. Light appears to be a good estimate of wealth and prosperity: the illuminated areas tend to be the richest areas. Illustration: just compare North and South Korea.

14. 'Clash of globalizations' (Kevin Gallagher, 2013). Trade politics in the 21st century is characterized by a clash between developed economies supporting a global trade regime that reinforces their comparative advantage in capital and knowledge-intensive goods and developing economies that eventually want to move from primary commodities and light manufacturing, the areas in which they currently have comparative advantage, to higher value-added production.

Gallagher, Kevin P. (2013): *The clash of globalizations: Essays on the political economy of trade and development policy*, Anthem Press, London.

15. The Malthusian view (Thomas Malthus). Assuming that population tends to grow if unchecked and that there is a limit to the increase in agricultural productivity, it is not possible for an economy to enjoy population growth and increasing per capita wealth

16. The modern Malthusian view. Rather than by the availability of food, all economies are ultimately constrained by the carrying capacity of planet Earth.

17. Malthusian instability (Layzer, 1988). Systems that can reproduce themselves (living beings, economies) and operate in favourable conditions tend to surpass the carrying capacity of the environment. This creates the need and incentive for the system to adapt and mutate into something else.

18. The Boserupian view (Ester Boserup). Population growth causes improvements in agricultural productivity, agricultural technology, land use and land tenure: an increasing population leads to the intensification (more labour invested) in the use of existing resources (land). Boserup holds that population growth does not depend on food supply.

19. The Brenner view (Reuven Brenner, 1983). Many features of modern societies (emergence of agriculture, literacy, market institutions, the government, legal system) can be viewed as adaptations to an increase in population. A population increase reduces per capita wealth and changes wealth distribution. This induces those at the lower scale of wealth distribution to take more risks (bet on novel, revolutionary, innovative ideas; engage in illegal acts; become more creative; gamble more). The more envious individuals are more prone to gamble more as a way to try to improve their relative position. Those succeeding in the bet for novel ideas create a positive externality on the rest: innovations eventually spread.

Brenner, Reuven (1983): *History: The human gamble*, The University of Chicago Press, Chicago.

20. Jevons paradox (William Stanley Jevons, 1865). "It is wholly a confusion of ideas to suppose that the economical use of fuel is equivalent to a diminished consumption. The very contrary is the truth."

- All efforts to maintain the resource and energy base of an economy are eventually futile. Specifically, technological improvements that improve the efficiency of resources or sources of energy lead to an increase (not a decrease) in the consumption of the resources or the energy sources (coal, oil, electricity...). Since technological improvements make the use of resources cheaper, more of the resources will be used.
- If a new technology reduces the amount of a certain resource (and the environmental impact) per unit of production, the new technology may have an expansionary effect on the general economic activity that could increase the amount actually used of the resource and its environmental impact. The paradox is that a technology created to save resources and the environment may ultimately offset the initial energy/environmental savings and contribute to worsen the original problems: resource depletion and environmental deterioration. The underlying explanation is that technologies are not developed and adopted to achieve social goals, like saving resources or the environment, but to make (private) profits.

21. Four ideas that will not change the world (Steinberg, 2015, pp. 215-219)

- **Misperception 1: technological breakthroughs and scientific advances happen by themselves.** Discoveries are not self-propelled; they occur in a social context. Political decisions are a fundamental force in scientific and technological discoveries and innovations.
- **Misperception 2: a society growing richer automatically improves its environmental conditions.** The environmental Kuznets curve (EKC, the conjecture that economic growth initially harms the environment and afterwards improves it) does not hold for all pollutants. Urban waste treatment seems to be consistent with the EKC, but carbon dioxide emissions or biodiversity loss do not. Even when EKC holds, it may be just a spurious correlation: some factor simultaneously contributes to economic growth and environmental quality.
- **Misperception 3: a good strategy to solve environmental problems is to let markets operate freely (without environmental regulations).** Markets will not save the planet. Environmental quality and sustainability are both public goods and unregulated markets are inadequate institutions to provide public goods (private agents underinvest in such goods).
- **Misperception 4: individual decisions and local, isolated initiatives are sufficient to solve global problems.** Working in isolation (like recycling alone) is not powerful enough to address the bigger issues. It is only through active engagement in politics that major improvements in environmental quality will be achieved. This misperception is an instance of the fallacy of composition: the presumption that what is true or works at some scale, is also true or works at a larger scale. Big environmental problems require an adequate match: to think big and change rules. Installing solar panels at home is a move in the right direction but environmental legislation has the scope for inducing real change.

Steinberg, Paul F. (2015): *Who rules the Earth? How social rules shape our planet and our lives*, Oxford University Press, Oxford.

22. The Washington Consensus (WC). The WC represented an economic agenda for globalization (economic liberalization and global market integration) based on adopting the following measures (and others in the same spirit): free trade; capital market liberalization; flexible exchange rates; market-determined interest rates; market deregulation; privatization (transfer of assets from the public to the private sector); balanced government budget; tax reforms stimulating investment and production; secure property rights; protection of intellectual property rights. The underlying logic of the WC is to reorganize the public sector (at all levels: local, regional, national, global) to facilitate the activity of global private institutions and give preeminence to market institutions in the creation and distribution of wealth. The WC captured orthodox economic thinking: free markets should regulate all economic activity and states should just attract foreign investors and preserve a good credit reputation through fiscal discipline; liberalization, deregulation and privatization of the economy; and commitment to make employment as 'flexible' as necessary.

23. Successful integration in the global economy. The most successful examples of non-western economies reaching western levels of development and prosperity (Japan, South Korea, Taiwan) have not followed the prescriptions of the Washington Consensus. China and India have neither adopted these recommendations. All these countries achieved sustained growth by imposing protective barriers and letting the public sector sponsor and steer development.

24. The augmented Washington Consensus. It adds to the original set of measures: legal/political reform; regulatory institutions; anti-corruption fight; labour market flexibility; WTO agreements; financial codes and standards; 'prudent' capital-account opening; non-intermediate exchange rate regimes; social safety nets; poverty reduction.

Held, David et al. (2005): *Debating globalization*, Polity Press, Cambridge, UK.

25. The Washington Consensus (John Williamson, 1990). The Washington Consensus is a set of economic policy recommendations regarding development strategies promoted by the IMF, the World Bank and the US Treasury (all Washington-based institutions). Originally, it was defined by three broad premises: market economy, openness and macroeconomic discipline. The ten original suggested reforms were:

- Fiscal discipline. Reduce large public deficits, which were presumed to lead to balance of payments crises and high inflation.
- Re-ordering public expenditure priorities, towards pro-growth and pro-poor expenditures.
- Tax reform: combine a broad tax base with moderate marginal tax rates.
- Liberalization of interest rates.
- A competitive exchange rate: adoption of an intermediate exchange rate regime (against the two corner doctrine that a country must either fix the exchange rate or let it float freely).
- Trade liberalization.
- Liberalization of inward foreign direct investment.
- Privatization, but paying special attention to how privatization is conducted.
- Deregulation, focusing on easing barriers to market entry and exit.
- Legal security for property rights: ensure access to property rights at acceptable cost.

Serra, Narcís; Joseph E. Stiglitz; eds. (2008): *The Washington Consensus reconsidered: Towards a new global governance*, Oxford University Press, Oxford, UK.

26. The Beijing Consensus (Joshua Cooper Ramo, 2004). The Beijing Consensus (the China model or the Chinese Economic Model) expresses a political economy view opposed to the ('market-friendly') Washington Consensus. The Beijing Consensus describes the features of the economic development model (of political and economic policies) that China is presumed to have followed in the last decades to develop its economy. The Beijing Consensus suggests new rules for a developing country to achieve fast, stable and sustainable economic growth.

- Ramo's original core prescriptions were: (i) a willingness to innovate; (ii) equitable growth and sustainable development; and (iii) a strong belief in a nation's self-determination.
- The China model is often viewed as a resizing of the 'Singapore model' (the long-term one-party developmental state), a developmental model combining state capitalism (specifically, foreign investments with government-linked corporations) with one party-rule (the People's Action Party).

Li, Jun; Liming Wang (2014): *China's economic dynamics: A Beijing Consensus in the making?*, Routledge, London and New York.

27. The Post-Washington Consensus (Joseph Stiglitz, 1998). Joseph Stiglitz claimed that 'making markets work' required more than deregulation policies and low inflation: a robust financial system, to whose creation the government contributes greatly, is necessary for markets to deliver efficient outcomes (as was automatically presumed in the Washington consensus). In Ha-Joon Chang's opinion, the crucial feature of the Post-Washington Consensus is replacing getting-the-prices-right policies with getting-the-institutions-right policies.

28. Neoliberalism or governing through markets. Neo-liberalism is the doctrine that economic policy is reduced to a basic strategy of 'leaving it to the market' and eliminating any public intervention in markets. The last two or three decades has witnessed a shift in economic policy towards neoliberalism. The shifts in economic policy along the neoliberal lines include:

- discarding fiscal policy in favour of monetary policy;
- policy goals no longer concentrating on employment and growth but on inflation and price stability;
- ascribing the causes of unemployment to the operation of the labour market and, in particular, its "inflexibility";
- unemployment can only be solved through labour market 'reforms' and remove their 'rigidities,' associated with trade union power, long-term employment contracts, and minimum wage regulations;
- the solution to the unemployment problem does not stem from demand-side policies nor regional and industrial policies designed to tackle structural unemployment;

- the liberalization and deregulation of markets (particularly, financial markets) and the removal of capital controls that regulate the flow of capital between countries.

Arestis, Philip; Malcolm Sawyer (2004): *Neo-liberal economic policy*, p. 1.

29. Two models to explain capital flows from richer to poorer countries (Michael Pettis)

- The investment model. This model (the dominant one) posits that the prime determinant of capital flows is the destination of the flows: developed-country investors compare expected profit returns in different countries and decide to invest in less developed countries when the growth prospects there are considered more favourable. It is the characteristics ('local economic fundamentals') and policies ('eliminate distortions', 'get the country ready for growth') of the countries receiving the flows that matter.
- The liquidity model. This model posits that the prime determinant of capital flows is the source of the flows: it is a situation of excess liquidity in the richer countries that stimulates capital outflows to the poorer ones.

Vestergaard, Jakob (2009): *Discipline in the global economy: International finance and the end of liberalism*, Routledge, New York.

30. The Lucas paradox (Robert Lucas, Jr, 1990). Orthodox macroeconomic theory predicts that capital (lending) should flow from the richer to the poorer economies until rates of return are equalized. The Lucas paradox is the observation that such flows are not occurring. Why does does not flow from rich to poor countries?

- In a 1990 paper, Nobel laureate Robert Lucas, Jr. estimated that, if orthodox macro-economic theory were true, the return to investment in India in 1988 should be around 58 times higher than in the United States. Such monumental return differential should make capital to flow from the United States to India. Yet this flow has not been observed.

It is likely that the real interest rate will substantially differ between richer and poorer economies. In a poor economy, by definition, GDP per capita is low and, accordingly, savings are low. In addition, lack of productive capital (which lies behind a low GDP per capita level) implies that the return to capital will also tend to be high. Scarce supply of savings combined with high demand for capital lead to high real interest rates. The reverse is expected to occur in a rich economy. As a consequence, given that capital is mobile internationally, it is natural to predict a flow of funds from richer to poorer economies. One reason why such a flow has not been observed is that investment (lending) in poorer economies is riskier. Hence, it would not be surprising to observe funds flowing from poorer to richer economies, where investment, despite being probably less profitable, is safer. This will cause real interest rate differences between rich and poor economies to widen rather than to contract.

- Investors may lack relevant information: poorer economies are typically less transparent than richer ones.
- There is also exchange rate risk, that is, that the currency of the poor economy receiving investment will fall with respect to the currency of the domestic economy of the investor. If this fall occurs, the investor incurs a loss when converting the invested funds back into the investor's currency.
- Investors may believe that the default risk is higher in a poor (less well known) than in a rich (better known) economy. Justification of this belief: poorer economies are weak agents in international capital markets (it is harder for them to obtain foreign funds) and historically they have been politically and/or socially more unstable than rich countries.
- In general, the environment of a poor economy tends to be more unstable or unpredictable. For example, governments may lack credibility insofar as they are prone to make frequent changes in regulations and taxes.

Akhtaruzzaman, Muhammad; Christopher Hajzler; P. Dorian Owen (2017): "Does institutional quality resolve the Lucas paradox?," *Applied Economics*, DOI: 10.1080/00036846.2017.1321840.

31. The world created by globalization is not flat. Two versions of global capitalism coexist anarchically. One is exploitative, dominated by low wages, lack of workers' rights and no concern for the environment. The other, characterized by higher wages and protection to workers and the environment.

32. Globalization and employment. Globalization has also transformed the characteristics of work and employment: labour markets are increasingly segmented (between high-skilled and low-skilled workers), which contributes to income inequality, and, in general, jobs tend to be temporal rather than permanent (which increases social instability and makes the professional career and job security things of the past that are not likely to come back).

33. Offshore outsourcing. A key driver of economic globalization is the rapid expansion of offshore outsourcing, itself facilitated by the increasing ability of companies to fragment production processes across national borders. As a result, the world has initiated a transition toward a single global economy.

34. The Great Transformation. Expression that refers to the creation, since around 1980, of a global labour market and the associated redefinition of the social order. The process is analogous to the rise of national market economies in the nineteenth and early twentieth centuries.

35. Drivers of the globalization of labour markets. (1) 'The great doubling' of the global labour force, due to the entry of China, India and Russia in the global economy (nearly 1.5 billion additional workers between 1980 and 2000). (2) The expansion of higher education in developing countries (increased by 383% between 1970 and 2000). (3) The transfer of modern technology to developing countries.

36. Winners and losers from the Great Transformation. Winners: businesses that employ workers from developing countries and the workers in developing countries (mainly, China and India) employed by the modern (more productive) sectors. Losers: workers in other developing countries (manufacturing jobs in Latin America, Africa, and Asia have been transferred to China or India; some of these countries have benefited from an additional international demand for natural resources, but extraction industries employ relatively few workers and create basically low-skilled jobs). In both developing and developed countries, the creation of a global labour market is putting (mostly, low-skilled) workers in a more precarious position: offshore outsourcing give more privileges and negotiating power to businesses.

Paus, Eva; ed. (2007): *Global capitalism unbound: Winners and losers from offshore outsourcing*, Palgrave Macmillan, New York.

37. The flexibility imperative. The failure to 'make globalization work' in an economy is, according to orthodox economic thinking, solved by increasing 'labour flexibility': improve (through economic policy measures) the capacity of domestic labour markets to 'accommodate structural changes smoothly and rapidly'. The mobility of global capital reduces the bargaining power of workers: firms just choose countries where workers accept the flexibility imperative (labour market deregulated). Labour regulation protecting workers is said to be a constraint preventing markets to be 'free' and the globalization process to succeed and deliver its presumed benefits (it seems that, to make markets free, workers must be enslaved).

Amoore, Louise (2002): *Globalisation contested: An international political economy of work*, Manchester University Press, Manchester and New York.

38. Unequal distribution of trade gains: impact of trade liberalization on the labour market. There appears to be a general, theoretical consensus that trade liberalization creates gains at the macroeconomic level at the expense of generating losses at the microeconomic level. Specifically, trade liberalization makes low-skilled workers worse off: trade liberalization tends to destroy jobs requiring low or no particular skill and also tends to reduce the wages of these occupations (and, thus, increase income inequality). The unequal distribution of trade gains provides a reason for the adoption of public policies that compensate

the groups harmed by trade without losing the trade gains. There are two main policy instruments to redistribute the gains.

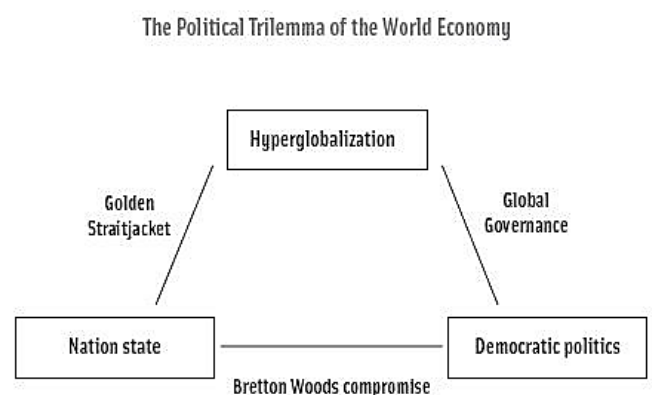
- Use wage subsidies for low-skilled workers to offset or attenuate the wage decrease. This policy tool is rarely used.
- Use unemployment benefits to compensate the income that the unemployed no longer obtain from a job they no longer have. The theoretical claim is that this measure raises the average wage in the economy, which reduces the aggregate demand for labour and, as a result, aggregate production; that is, trade gains are partially lost. The funding of unemployment benefits is also a relevant issue. Are they financed by means of: (i) a wage tax paid by workers; (ii) a payroll tax paid by firms; (iii) a profit tax paid by the exporting firms?

Marco de Pinto (2013): *International trade and unemployment: On the redistribution of trade gains when firms matter*, Physica-Verlag, Heidelberg, Germany.

Giancarlo Gandolfo (2014): *International Trade Theory and Policy*, Springer, Heidelberg, Germany, ch. 16- 17.

39. Rodrik's trilemma: Clash between politics and hyperglobalization (Dani Rodrik, 2011).

'The fundamental political trilemma of the world economy: we cannot have hyperglobalization, democracy, and national self-determination all at once.' A fully globalized economy forces the state to preserve the economic globalization and satisfy the needs and expectations of international traders and investors. When there is a conflict between the needs of the people and the needs of these agents, the state must give priority to the latter. To restore domestic democratic legitimacy, globalization must be limited. The third option is to give up state sovereignty to globalize democracy.



40. Rodrik's central dilemma of the world economy (Dani Rodrik, 2007, p. 8). Tension between the economic reality (the global nature of many markets) and the political reality (the local nature of the institutions under which markets operate).

41. The three recent epochs of capitalism. (1) The Belle Epoch (1880–1914): the first era of global financial capitalism; (2) the Golden Age (1945–1975) of capitalism; (3) the Neoliberal Era (1980–2017): the second era of global financial capitalism. The Belle Epoch, the product of the cumulative development of capitalism, collapsed: two world wars with a Great Depression in between. By comparing the Belle Epoch with the Neoliberal Era, Piketty anticipates the persistence of a low-growth regime and a traumatic end to the Neoliberal Era (global wars and economic crises), unless there is a global political peaceful reorganization that stops the forces that, through the progressive accumulation of capital in fewer hands, is exacerbating class conflict. As in the Golden Age, an interventionist welfare state (at a global scale) is the needed counterbalancing force, to temper the forces of global financialization, even at the price of sacrificing economic growth.

42. The Shock Doctrine. How do societies respond to extreme shocks, like wars, natural disasters, economic crises, epidemics, terrorism? Naomi Klein contends that, in the last decades, corporate interests have exploited episodes of crisis to the advantage of a small elite. This has been achieved by promoting and supporting policies beneficial to the elite (privatization, deregulation, social spending cuts...) and by restraining civil liberties and rights. Klein claims that climate change is another opportunity to apply the

shock doctrine: instead of seeing the implementation of measures to address the cause of the problem, we should expect the climate change crisis to be exploited to transfer more benefits and privileges to the top 1%. For instance, financial investors will use this opportunity to gamble on possible futures; insurance companies will devise and sell new protection schemes to the potential victims of the crisis; commons privatized; new markets will arise (markets for carbon credits) to exploit lucratively a potentially disastrous situation... No opportunity to profiting from disaster will be missed.

Klein, Naomi (2014): *This changes everything: Capitalism vs. the climate*, Simon & Schuster, New York.

Klein, Naomi (2007): *The shock doctrine: The rise of disaster capitalism*, Metropolitan Books, New York.

43. The power of big corporations. How much power can big corporations obtain during the current digital revolution? How disruptive can the big four be? [By market capitalization, the five largest companies in 2006 were Exxon Mobil (\$540 b, in 2017 dollars), General Electric (463), Microsoft (355), Citigroup (331) and Bank of America (290). In April 2017: Apple (794), Alphabet (= Google, 593), Microsoft (506), Amazon (429), Facebook (414). In contradistinction to industrial companies, the big companies of the digital era concretate the economic benefits in a few hands: General Motors generated a value of \$0.23 million per employee; Facebook, \$20.5 million; see Scott Galloway, 2017, *The four: The hidden DNA of Amazon, Apple, Facebook, and Google.*]

<https://www.nytimes.com/2017/04/22/opinion/sunday/is-it-time-to-break-up-google.html>

- Amazon. A company growing at an annual rate of 20%. Jeff Bezos, currently the third wealthiest person in the world, is likely to become soon the number one.
- Apple. It has become the most profitable company in history by achieving the impossible: selling at a very high price a low-cost product. Apple's cash on hand is at a par with Denmark's GDP.
- Facebook. In terms of adoption and usage, the 1.2 billion people interacting daily with Facebook make Facebook the most successful creation in history.
- Google. Google is the most powerful source of knowledge and also gains from the impossible: it is a product that becomes more valuable, not less, with use.

44. Other globalization issues. (i) Is the global impact of criminal activity sufficiently under control or tolerable? [This activity seems to account for around 5% of world GDP.] (ii) There is an ongoing global process of urbanization. Currently, more than 50% of the world population lives in cities and this proportion is increasing. Is this process sustainable? Will the world become more or less urbanized? Is global urbanization another big bubble?

45. The world is broken. Globalization is not flattening the world, but mismanaging it.

- The world is for sure not flat for workers. Globalization has created a global labour market dominated by a race to the bottom in salaries and a loss of power of the workers' associations. Jobs migrate to the lowest bidder. Current globalization has for the first globalized the markets for all the factors of production: capital, labour, energy and raw materials. Many of the unpleasant features of globalization stem from connecting economies which are significantly different (the West and the Rest). Globalization avoided those features when it involved more similar economies (Europe and North America during the Golden Age, 1945-1975)..
- The national welfare state is in retreat, leaving people more vulnerable to the adverse effects of globalization and benefiting a few (or a larger part of the population but insufficiently).
- The great knowledge transfer. This transfer is allowing developing countries to move from agriculture to services without going through industry. That means that the rich countries cannot rely on the presumption that only low-paid, unskilled, routine (blue-collar) jobs could go abroad: white-collar workers will be the victims of the next great wave of offshoring.

- Capitalism is not just exploitative of labour, but also the natural resources. “China, the country with the most impressive growth rates in recent years, also tops the list of countries with little respect for their people and environment”.
- Benefits are asymmetrically distributed: “It’s like being in a crowded lifeboat. Only if one of the passengers jumps into the water can the other nine survive.” (Jagdish Bhagwati)

Steingart, Gabor (2008): *The war for wealth: The true story of globalization, or why the flat world is broken*, McGraw-Hill, New York.

46. The rise of China. At present, China’s economic and political ascent is one the most significant events. After four decades of continued growth, China’s share in world GDP is around 17%. Is this event signalling a displacement towards Asia of the center of gravity of the world economy? How will China behave as a major power? What changes in the global economy will China favour?

- **The Belt and Road Initiative.** This initiative (proposed in 2013 by President Xi Jinping) constitutes the most ambitious foreign policy project by China. Its ultimate goal is to integrate, by means of large-scale infrastructure projects and related investments, all the Eurasian countries, connecting Central Asia, South Asia, South East Asia, Middle East, East Africa and Europe. The initiative appears to signal China’s attempt to become a Eurasian great power (the greatest?). The initiative has two components: the Silk Road Economic Belt and the 21st Century Maritime Silk Road. Both aim at increasing the economic integration of the countries connecting East Asia with Western Europe.

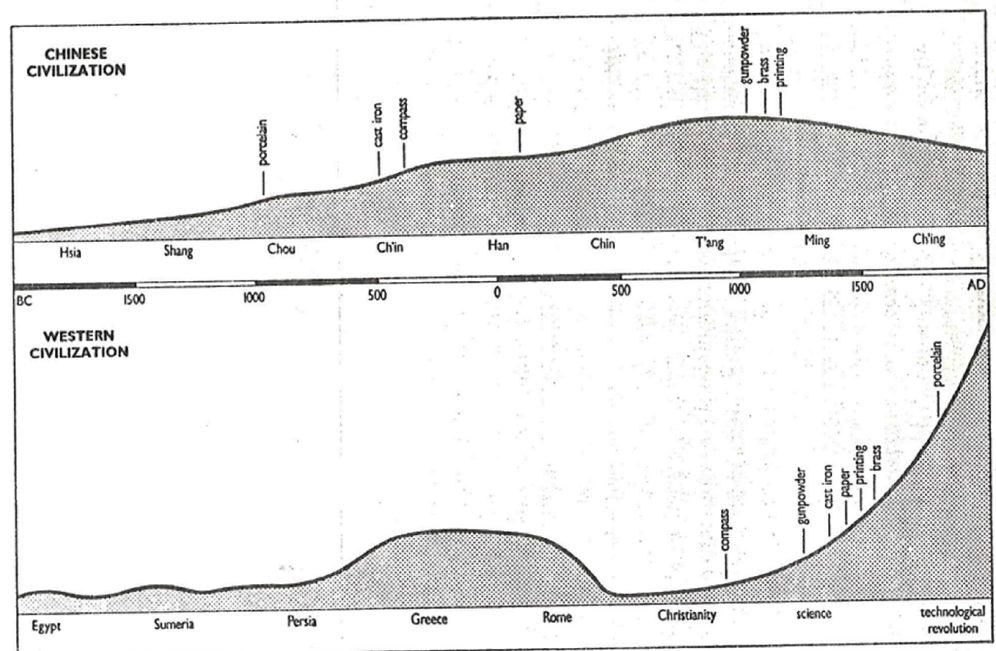
II. The development front of globalization

47. Historical race between Europe and Asia? Goody (2010) claims that, since the Bronze Age Urban Revolution (that created the culture of cities, 'civilization'), there has been an alternation in the leadership of material and informational development between the western side of the Eurasian continent and the eastern side. History does not seem to support the idea of a permanent advantage: all advantage/dominance/superiority is temporary.

48. Eurasian miracle. There is a common history of the development of civilization between East and West. Development has not been a uniquely or exclusively European phenomenon. The 'European miracle' (that the Industrial Revolution and the sustained growth in the standard of living occurred in Europe) is actually part of a larger 'Eurasian miracle'. There is no radical discontinuity in world development: the societies and urban cultures of Eurasia experienced a continuous development, to a great extent mediated by commercial, mercantile and manufacturing activity. The invention of writing accelerated cultural innovation towards the establishment of a knowledge society.

Goody, Jack (2010): *The Eurasian miracle*, Polity Press, Cambridge, UK.

49. The Great Divergence. It is an expression that refers to the prosperity gap (more or less apparent after the Industrial Revolution) between 'the West' (western European countries and its offshoots, US, Canada, Australia and New Zealand) and 'the Rest'. The divergence was created by countries in the West entering before the current regime of modern economic growth in which



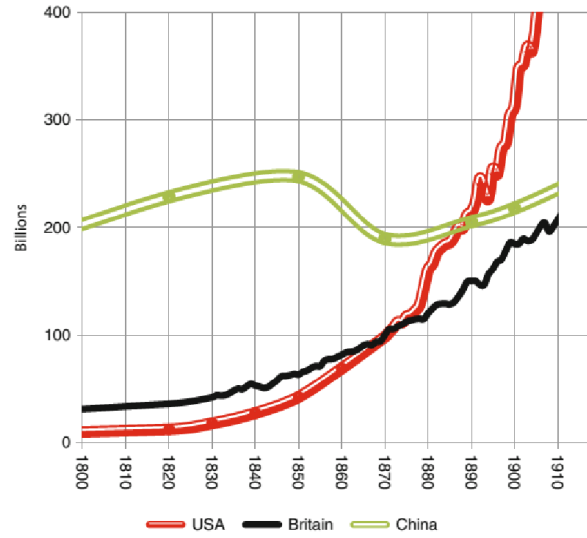
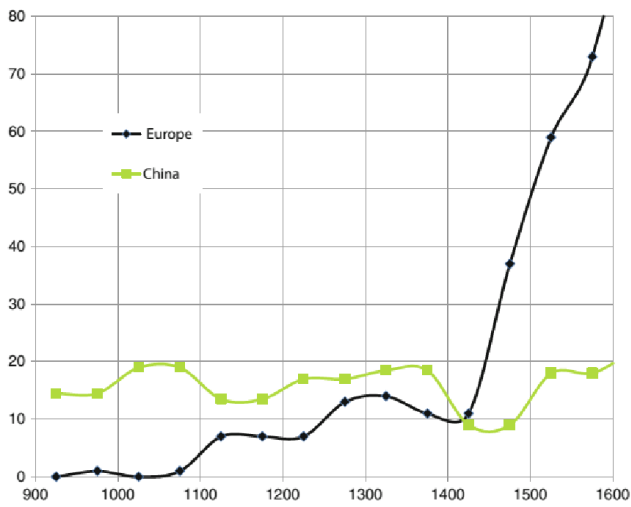
GDP per capita grows continuously to a great extent thanks to continuous technological advances applied in production processes. One explanation of the gap is that the West followed a capital-intensive path of development, whereas the Rest (specifically, East Asian economies) chose instead a labour-intensive path. Pomeranz (2000) attributes the different choice to mere accident: the fact that the West had access to the New World resources. A parallel interpretation is that the members of the West had the chance to globalize their economies first (first mover advantage).

Pomeranz, Kenneth (2000): *The great divergence: China, Europe, and the making of the modern world economy*, Princeton University Press, Princeton, NJ.

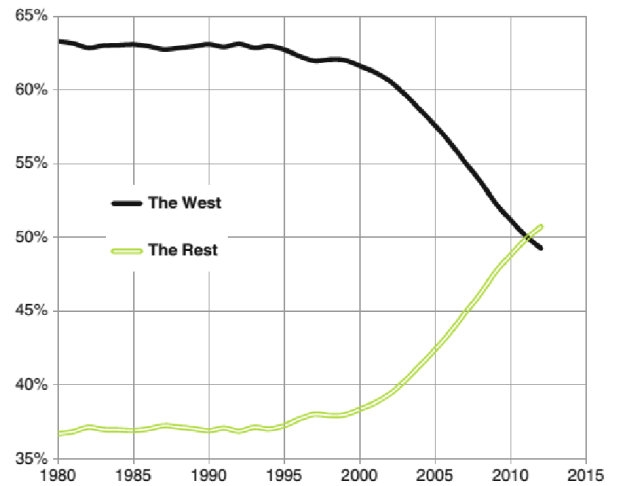
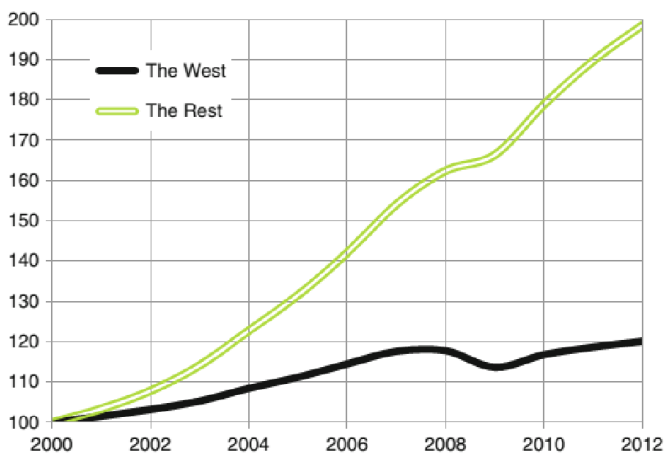
50. Explanations for the Great Divergence. General explanations for the Great Divergence (strongly related to the so-called fundamental growth determinants: culture, geography and institutions): (i) access to natural resources (coal); (ii) institutions (those favouring the spread of market activities); (iii) role of the state (promotion of industrialization); (iv) science and technology (cultural and institutional contexts favouring or difficulting their development); (v) the extent of the market for consumer goods (consumer revolution, Industrious Revolution); (vi) de-industrialization of the periphery (mainly during the 19th century).

- 51. Rise of the West/Great Divergence.** The 'Rise of the West' refers to the economic and political preeminence achieved globally by Western Europe (and British colonies) after (and thanks to) the Industrial Revolution. The 'Great Divergence' is the counterpart of the Rise of the West: while the West entered the regime of modern economic growth (sustained growth in real income), 'the Rest' diverged in relative terms with the West in income levels. Was the 'Rise of the West' (the European transition from underdevelopment to development through the Industrial Revolution that established the European superiority in wealth and power in the nineteenth century) actually a long rise (that started in the European medieval period) or a sudden (and possibly accidental) divergence from the rest of the world?
- 52. The traditional view of the Rise of the West.** Some features of the European society (a uniquely creative, multipolar, internationally open society?) eventually produced the surge in productivity, technological progress and military power. If this view is correct, does it imply that, to become as developed as European/Western societies, the rest of societies must resemble European/Western? Is there an essentially unique way to become developed and prosperous? If it took a long time European societies to become developed, will non-Western societies also need a long time to match the Western levels of material well-being and technological progress?
- 53. A dissenting view (the California School of global historians).** Asian economies enjoyed levels of productivity and material well-being similar to the European levels, probably up to 1750-1800. India and China were manufacturing powers even during the 17th century. The European success/superiority arrived late and quickly. It was the accidental result of a resource windfall (the exploitation of the Americas) combined with the decline of the Asian economies. An implication of this view is that non-Western economies could catch up rapidly. Evidence supporting this conclusion: Japan and South Korea have been able to reach Western levels of prosperity and technology; and, in the last decades, China and India (and other Asian economies) have achieved growth rates far larger than the Western rates.
- 54. The Needham puzzle (Joseph Needham).** Having China made so many fundamental technological innovations (printing, compass, gun powder, paper), why did modern science not first developed in China?
- 55. Little Divergence.** The expression Little Divergence captures an intra-European phenomenon. An older Little Divergence refers to the growing economic divergence (during the 17th and 18th centuries) between the more dynamic and expansionary economies in north-western Europe (Holland, England) and the comparatively more stagnant southern (Mediterranean) economies in Europe (Spain, Italy, France). A newer Little Divergence is associated with the increasing gap in GDP per capita between north-western (Atlantic) Europe and both Mediterranean and East-Central Europe after around 1750. In short, it is an expression that refers to the divergence in economic development within the Western countries during the nineteenth and early twentieth centuries: a richer European north against a poorer European south.
- 56. Explaining the Great and the Little Divergences.** An explanation behind both the Great and Little Divergences (Davids, 2013) emphasizes religion as an important factor in technological change, through the impact of religion on: (i) the formation of knowledge and skills; (ii) the circulation of knowledge; and (iii) technical innovation. The Protestant Reformation is seen as an event that promoted the establishment and development of social and political institutions favourable to economic growth (via incentives to accumulate human capital, increase the supply of labour and adopt more responsible and predictable forms of government).
- 57. Great Convergence?** Is the Great Divergence in standards of living between the West and the Rest that resulted from the Rise of the West being cancelled out by an ongoing Great Convergence (through which

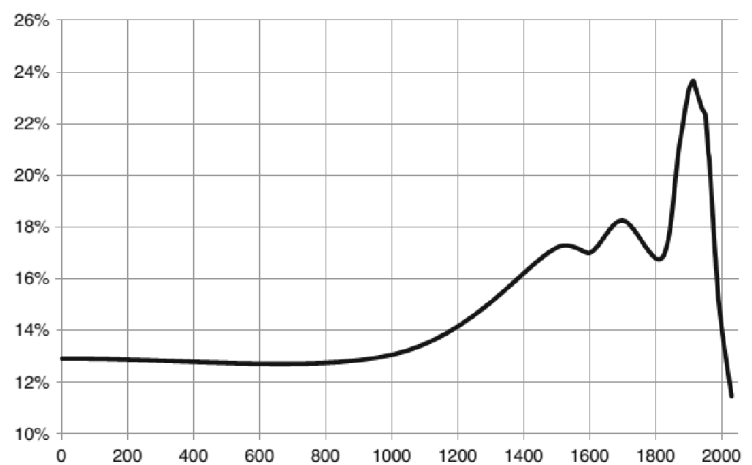
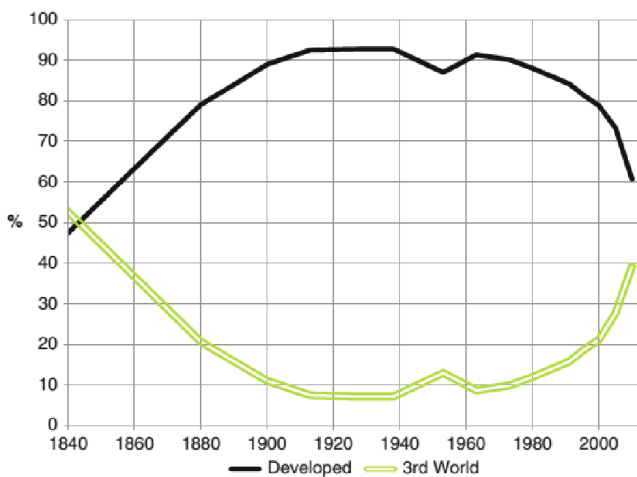
the Rest is catching up with the West)? Is the globalization of the world economy the means by which the Great Convergence unfolds? Is then the Great Convergence a necessary continuation of the Great Divergence? Are they the two phases of a Global Modernization process?



Left: Number of innovations in science and technology, 900–1600, Grinin and Korotayev (2015, p. 46)
 Right: GDP dynamics, 1800–1917, Grinin and Korotayev (2015, p. 80)



Left: Relative GDP dynamics between West and Rest, 2000–2012 (2000 = level 100), Grinin and Korotayev (2015, p. 91)
 Right: Share of the West and the Rest in global GDP, 1980–2012, Grinin and Korotayev (2015, p. 91)



Left: Western percent share in the world manufacturing, 1840–2010, Grinin and Korotayev (2015, p. 94)
 Right: Share of the West in the world population, Grinin and Korotayev (2015, p. 94)

Cappelen, Ådne (2007): "Convergence, divergence and the Kuznets curve," in Erik S. Reinert; ed. (2004): *Globalization, economic development and inequality: An alternative perspective*, Edward Elgar, Cheltenham, UK, 309-325.

58. The puzzle of the Middle East's economic underdevelopment. In the present, the Middle East is considered an economic laggard, a region suffering from a general economic inferiority in comparison with more advanced regions (in terms of life expectancy, energy and resource use, GDP per capita, literacy). Around the year 1000 this was not true: the region was economically advanced. Even around 1750 the inferiority did not appear so evident. The gap between the West and the Middle East was created in the nineteenth century. The twentieth century did not serve to close the gap but to keep it open. In comparison with the West, the Middle East has (at least since 1750) experienced a relative decline: growth has been slower than in the richest countries. Why?

59. Kuran's (2010) explanation. The Middle East fell behind the West because fundamental institutions of a modern economy were adopted late: durable or long-lasting private enterprises, the only ones capable of mobilizing massive amounts of resources for production activities and thereby ensure durable economic transformations. Until too recently firms in the Middle East were too small and short-lived: profit-making enterprises were temporary undertakings and did not outlive their founders. This kind of institution was incapable of mobilizing huge amounts of savings, creating and exploiting new technologies, developing complex organizations, considering long-run planning horizons... Lacking the legal ability to create permanent and bigger private firms (the long divergence in organizational development) explains the lag in living standards and the subordination to western economies (the long divergence in prosperity).

Kuran, Timur (2010): *The Long Divergence: How Islamic law held back the Middle East*, Princeton University Press, Princeton, NJ.

60. Gerschenkron's virtue of backwardness. Gerschenkron's study of the comparative history of industrialization in Europe led him to question the view that development gaps have to be eliminated by having the backward economies follow the path of the pioneering economies. His argument is that, once an outcome exists (industrialization, development) it is not necessarily the best policy to replicate the original way in which the outcome was achieved. The process involved are different from the one experienced by the now rich economies (speed of industrial growth, new organizational structures, novel industrial techniques and technologies...). He claims that the more backward (the less developed) an economy, the faster its industrialization can/will be, the more it will be based on the capital industry (instead of the consumer goods industry), the larger the scale of plants, the less significant the role of agriculture to help industrial development and the more important the institutions in promoting growth. His analysis emphasizes the advantages of the late-comer.

Gerschenkron, Alexander (1962): *Economic backwardness in historical perspective*, Harvard University Press, Cambridge, MA.

61. Replication of social outcomes vs replication of social processes. Sequence in most developed countries: national identity (middle class + national market) → modern state (state authority). In most developing countries, state preceded the nation. These countries are not the result of middle-class prosperity created in a unifying national economy. A developed (capitalist? technologically advanced?) democratic nation-state seems difficult to replicate. Is failure to create a nation state the cause for the failure to develop? Not politically viable implies not economically viable?

62. Western civilization = cancer for the Earth. "Our civilization thus operates in the same way as a cancerous cell that goes on destroying the organism off which it lives." (p. 3)

de Rivero, Oswaldo (2010): *The myth of development: Non-viable economies and the crisis of civilization*, Zed Books, London and New York.

63. South Korea's success. In the 1950s, Korea was one of the poorest countries in the world. Now ranks among the richest (GDP per capita higher than Spain's). But Korea did not succeed because it conformed to the free market ideology. Rather Korea's economic 'miracle' was based on: (1) nurturing certain new industries through government support, according to a national development plan, until the industries were ready to face international competition; (2) government control of all the banks, to be able to regulate a basic element of business activity: credit; (3) undertaking big projects by state-owned enterprises (such as POSCO, the steel maker) ; (4) controlling foreign exchange and foreign investment. In sum, "The Korean economic miracle was the result of a clever and pragmatic mixture of market incentives and state direction. The Korean government did not vanquish the market as the communist states did. However, it did not have blind faith in the free market either".

Chang, Ha-Joon (2008): *Bad samaritans: The myth of free trade and the secret history of capitalism*, Bloomsbury Press, New York

64. Success in development seems to require a convergence of interests between economic and political elites. The economic elite (top class of entrepreneurs, financial technocrats, owners of top firms) contributes to the alliance economic prosperity, which helps the political elite gain enough support among the population. The political elite creates the institutional and legal framework allowing the economic elite to exploit their economic privileges. As long as both elites perform their assigned tasks with sufficient competence, the pact between them will remain robust and last. Success follows from the imbrication between private and public sectors/interests.

65. The alliance/convergence between political and economic elites favours the political status quo. (1) Economic elites may not be interested in political change if they are already the main beneficiaries of economic policy or policy reforms. (2) The economic elite may be satisfied with the achievements of the existing political elite (safe and stable political and social environment). (3) The form the political system takes (autocracy, democracy) is not an end in itself but a means to obtain certain goals (internal unity and stability, external power and influence). If they are achieved with a specific political system, why change it?

66. Negative consequences of economic development. (1) Some regions, provinces, municipalities, individuals... profit more than others from the development and disparities/divergences arise (and perhaps consolidate). (2) Negative externalities (environmental deterioration, water shortages, air pollution, soil erosion, desertification). (3) Layoffs forced by competition, that increase unemployment, poverty and petty crimes. (4) Social services previously provided by public institutions may pass to the hands of private institutions (loss or deterioration of the social safety net).

Urio, Paolo (2010): *Reconciling state, market and society in China: The long march toward prosperity*,

67. Development through emulation. Is 'emulation' rather than 'comparative advantage specialization' and 'free trade' the strategy leading to successful development? At least, it appears that the West become rich through emulation: when the West started to rise, the more developed economies were Asian (China, India). Spain in the 16th century as an example of what not to do: the immense amounts of gold and silver taken from the Americas were not invested in productive systems but instead de-industrialized the economy. "Successful states protected manufacturing industry, unsuccessful Spain protected agriculture to the extent that it killed manufacturing".

68. Types of economic theories. Reinert (2007) identifies two main types of economic theories. One (the conventional one) relies on metaphors from physics (invisible hands like gravity, equilibrium states) and builds the theories (and elaborates economic policy recommendations) down from those metaphors. This type of theory has eventually become disconnected with time (history) and space (geography). The other type invokes biological metaphors and starts the construction of theories (are experience-based) from the ground up. Policy recommendations often precede theoretical elaborations and rely on the identification of empirically relevant factors, like increasing returns, technological change, synergies and side effects. These theories accept diversity and heterogeneity as essential elements in the understanding and control of reality.

Each type of theory leads to a different view of globalization and development. The conventional type supports income convergence in the world economy. The 'Washington consensus' expresses its policy recommendations. The heterodox type holds that globalization reinforces differences: countries unable to emulate the richer ones will experience retrogression and primitivization (they fail to develop and enjoy progress). Hence, unless ready to emulate, it would be premature to participate in the globalization process. Regarding development, the first type tends to view it as capital accumulation; the second, rather as the result of emulation and knowledge assimilation.

Reinert, Erik S. (2007): *How rich countries got rich... and why poor countries stay poor*, Constable, London.

69. The paradox of development (Morris, 2010). "Rising social development generates the very forces that undermine further social development." An unintended consequence of success is the emergence of new problems, whose solutions lead to additional (probably, more serious) problems. Social development stagnates or declines when the challenge of temporary success is not met: every society races against itself under an unstoppable Red Queen effect.

70. Two views on development. View 1: W. W. Rostow (1960). Economies pass through similar stages of development that lead to a common final state. View 2: Alexander Gerschenkron (1962). The path of development of an economy depends on the development gap with respect to the developed economies. Gerschenkron observed that scale economies were greater for later industrializers and that demanded new institutions to raise more capital. Additionally, more recent factors that modify the challenges and opportunities for late developers are the changes in transportation and communication technologies and the new patterns of global trade. Hirschman (1968) identified the differences between late industrializers in Europe (based on heavy industry and capital goods) and early stages of industrialization in Latin America (light industry and consumer goods).

71. Shirky principle (Clay Shirky): "Institutions will try to preserve the problem to which they are the solution." Institutions tend to develop a self-preservation instinct.

72. The Lee hypothesis (Lee Kuan Yew, 1923-2015; president of Singapore, 1959-1990): nondemocratic systems are better at bringing about economic development.

73. Joining the rank of developed countries appears to be extremely difficult. Up to 2012, only 11 developing countries have risen to the rank of developed countries: Hong Kong (1997), Israel (1997), Singapore (1997), South Korea (1997), Taiwan (1997), Cyprus (2001), Slovenia (2007), Malta (2008), Czech Republic (2009), Slovakia (2009), and Estonia (2011).

74. The catch-up illusion. Kim and Kim (2014) argue that the high growth rates of latecomers in the process of economic development depend on the developed countries. This implies that developing countries can at most aspire to keep pace with advanced countries, not to overtake them. The leaders (countries that industrialized first) will probably remain leaders forever and the followers (the latecomers) will also remain so.

75. The bottom billion. "The real challenge of development is that there is a group of countries at the bottom that are falling behind, and often falling apart. The countries at the bottom coexist with the twenty-first century, but their reality is the fourteenth century: civil war, plague, ignorance. They are concentrated in Africa and Central Asia, with a scattering elsewhere".

76. Development traps. The existence of development traps is denied by the right: good policies allow any country to escape poverty. The left consider these traps a by-product of global capitalism. Collier (2007) identifies four such traps: the conflict trap (civil war and coups), the natural resources trap, the trap of being landlocked with bad neighbors, and the trap of bad governance in a small country. No trap is inescapable but globalization has made it more difficult to use the global market to escape from them: to take advantage of globalization, an economy should be sufficiently developed (“strong”) and the problem of the economies trapped is that they are insufficiently developed (“weak”). There is then a vicious circle: a country is underdeveloped by some trap because it cannot join properly the globalization process, and it cannot join the process because of the country is underdeveloped. In 2006, according to Collier (2007), there were 58 trapped countries, with around 980 million people living there. The typical feature of these countries is being small.

Collier, Paul (2007): *The bottom billion: Why the poorest countries are failing and what can be done about it*, Oxford University Press, New York.

Reinert, Erik S. (2011): “Review of *The bottom billion* by Paul Collier,” *Journal of Global History* 6(1), 156-158.

77. Why is not all the world developed? Easterlin (1981) views the spread of modern economic growth as depending on the diffusion of knowledge of new production techniques, whose acquisition and application of this knowledge has depended on the extent to which the population has acquired the traits and motivations that formal schooling provides. In turn, political conditions and ideological influences seem to have determined in the past the implementation of modern education systems. Easterlin (1988) attributes the insufficient diffusion of technology to the lack of appropriate institutions (social capabilities).

78. Will all the world become developed? “This, then, is the future to which the epoch of modern economic growth is leading us: a world in which ever-growing abundance is always outpaced by material aspirations, a world of increasing cultural uniformity. (...) The proximate roots of the epoch of modern economic growth lie in the growth of science and diffusion of modern education”.

79. The Easterlin (happiness-income) paradox. The paradox is that empirical studies indicate that happiness (subjective well-being) increases with income at a point in time but, over time, this relationship disappears: the average level of happiness is unrelated to economic development. Easterlin’s (1988) explanation is that happiness is positively related to one’s income but negatively related to the income of the rest: you feel better off if your income rises when, for the rest, income remains constant; and you feel worse off if it is your income that remains constant while that of the rest goes up.

Easterlin, Richard A. (1981): “Why isn’t the whole world developed?,” *Journal of Economic History* 41(1), 1-19.

Easterlin, Richard A. (1988): *Growth triumphant: The twenty-first century in historical perspective*, The University of Michigan Press, Michigan, IL.

Stevenson, Betsey; Justin Wolfers (2008): “Economic growth and subjective well-being: Reassessing the Easterlin paradox,” *Brookings Papers on Economic Activity* 2008, 1-87.

80. Why poor countries do not escape poverty. The prevalent view seems to be that poor countries do not escape poverty because they fail to absorb the technologies of rich countries (by lack of education, management skill, entrepreneurial tradition, appropriate institution, economies of scale necessary to implement advanced technologies...). Clark (1987) attributes poverty to the “inefficiency of low-wage labour” in poor countries. He explains that labour be comparatively less efficient in poor than in rich countries in terms of local culture and environment (sociological factors). This view would question the importance of technological change to explain development and high incomes.

Clark, Gregory (1987): “Why isn’t the whole world developed? Lessons from the Cotton Mills,” *Journal of Economic History* 47(1), 141-173.

Hanson II, John R. (1988): "Why isn't the whole world developed? A traditional view," *Journal of Economic History* 48(3), 668-672.

81. Some ideas and questions on development

- On the development process – early starters took more time to develop (they could afford taking more time); should late-comers achieve the same result in necessarily less time? This makes it more difficult to develop. Late-comers face a new constraint: the 'acceleration of time' (effort must be concentrated – too gradual strategies are now unsuccessful).
- The development path is not entirely replicable – the most favourable and advantageous positions already taken by the early starters – The early industrialized countries are specialized in higher value-added products while the late-starting industrialized countries are specialized in lower value-added products. This limits the growth and development potential.
- It seems that not all growth strategies are development-equivalent.
- Does continued growth imply the need to become bigger (more markets integrated)? Can growth only occur through market integration? Is globalization the result of having to maintain growth, which would otherwise stop?
- The myth of development. The greater part of humankind continues to exist with low incomes, in poverty, technologically backward and governed by authoritarian regimes or, at best, in low-powered democracies. Recipe for development: modernize exports and limit fertility. Poverty stems from the opposite: exports insufficiently processed, demographic explosion.
- Two processes appear to generate a power vacuum: emergence of a new and powerful non-state world aristocracy and decline of the old aristocracy of nation-states. Governments cannot on their own solve global problems and transnational enterprises are not interested in taking that responsibility.
- A contemporary explanation for Spain's economic backwardness in the 17th century: "Those who can, will not; those who will, cannot." (González de Cellorigo)
- Is political development inseparable from economic development? Nation-state necessary for development? Western experience: the creation of a middle class together with the integration of the national market lead to the emergence of the modern nation-state. The other way round (having first the modern state and then try to generate a middle class and articulate a domestic market) does not seem to have worked (Latin America).
- "The crude reality is that today nobody knows how to reach El Dorado. The rich are getting richer and the poor poorer, in all countries." Oswaldo de Rivero, *The myth of development*.

82. The extra factor. Hidalgo (2015) adds to the conventional factors with which economics textbooks describe an economy (capital, labour) and to those in natural science textbooks (energy, matter, information) another factor that links physical quantities with social processes: economic complexity. Economic complexity refers to the knowhow and knowledge accumulated at the aggregate level and which is expressed in the diversity and sophistication of economic activities. The chart above on the right illustrates the positive correlation between economic complexity and GDP per capita (standard of living).

Hidalgo, César (2015): *Why information grows: The evolution of order, from atoms to economies*.

83. The (relative) decline of the West. The rise of India and China signals the end of Western dominance, heralded in the recent past by the rise of Japan and the subsequent success of the Four Dragons (Singapore, Hong Kong, Taiwan, and South Korea) and consolidated by the most recent wave of industrializing Asian economies (the Four Tigers: Thailand, Philippines, Indonesia and Malaysia). Globalization is displacing the economic and political focus from the West to the East: Asia's rise is the West's descent. Indicators of this descent are the increasing unemployment and the growing public debt in Europe and, in the US, trade deficits, government debt and consumer debt levels together with bigger risks of an unstable dollar.

84. Ratchet effect. There are periods of growth of about 300 years, ended by either external or internal shocks, followed by collapse. The civilizations that lead a growth cycle cannot raise the standard of living permanently, but humanity benefits from a ratchet effect: the next growth cycle starts at a higher level (Graeme Snooks, 1993).

85. Parallel historical phenomena: long waves of economic activity and rivalry for economic leadership (Manfred Neumann, 1997). Growing wealth generates expectations of greater wealth – when the marginal profits of accumulation start to decline, distribution problems become more pressing – when economic policy shifts from wealth creation to wealth distribution the potential for growth creation is undermined and the distribution pressures reinforced.

86. The Buddenbrook syndrome (after Thomas Mann's novel). The grandfather makes successful the firm founded by this father. The grandfather's son consolidates the business. The grandson fails to maintain success. Inherited wealth changes preferences from capital accumulation to present consumption: the present is perceived as more valuable than the future. Those accustomed to the enjoyment of wealth spend more time and effort in consuming (reducing wealth) than in investing (increasing it).

87. The international Buddenbrook syndrome (Manfred Neumann). "The economic rise of a country and the achievement of leadership depend on time preference being comparatively low [= savings comparatively high] and the burden of military expenditures being light because of population size (...) Conversely, the decline of once-leading nations can, in all cases, be attributed to a rising rate of time preference (...) Innovative activity diminishes and the ability to cope with the challenges of foreign competition dwindles."

88. Institutional life cycle (Avner Greif). Institutions created to sustain cooperation in the end generate the conditions leading to their own demise. Example: Genoa was a thriving commercial center in the 11th century thanks to the cooperation between the ruling commercial clans; with success, the reward from controlling the city overwhelmed the gains from continued cooperation. With the disappearance of the foreign common military threat (the

89. Versions of the hypothesis of convergence of GDP per capita

- Absolute convergence (absolute beta-convergence). Regardless of their initial conditions, economies converge in the long run. To test this assumption it must be verified (i) that poorer grow faster than richer countries and (ii) that GDP per capita growth is negatively correlated to the initial level of GDP per capita (the poorer a country at the start of the period under consideration, the faster it grows during that period).
- Conditional convergence. Economies converge in the long run regardless of their initial conditions if they must possess similar structural characteristics. Conditional convergence does not imply absolute convergence.
- Club convergence. Economies with similar structural characteristics converge in the long run if they enjoy similar initial conditions. Club convergence implies neither absolute nor conditional convergence.

III. The ideological front of globalization

90. Neoliberalism. It is an ideology claiming that essentially all the economic and social problems can be solved by some free market process. And even if the market solution is not absolutely satisfactory, there is the presumption that any solution articulated by public authorities will fare worse than the market solution. According to Perry Anderson, neoliberalism is “the most successful ideology in world history” and is currently ruling the world. In advanced economies, neoliberal principles appear to represent a domain of political convergence between the moderate left (no longer hostile to markets) and the moderate right (no longer uneasy by market excesses).

91. Neoliberalism as a social experiment. The implementation of the neoliberal doctrine creates neoliberalism as a process, resulting from the application of such policies as: privatization of public companies and services; deregulation of private economic activity; reform of welfare programmes and taxation systems that disprotect the poorer, vulnerable or disfavoured groups; the extension of markets mechanisms to areas where they are not appropriate... These policies are enforced by most developed countries and by the main global economic institutions: International Monetary Fund, World Bank and World Trade Organization.

**“The surest way to do more to help the [world’s] poor is to continue to open markets.”
Mike Moore, former Director General of the WTO**

92. Historical materialism. It is a general theory of economic systems, applicable to all of human history, holding that the characteristics of the productive forces (means of production and labour power: technologies and people) of an economy causally determine the remaining dimensions (economic, political, cultural...) of a society.

93. The development thesis of historical materialism. The thesis holds that the forces of production tend to develop with time, so overall productive power tends to eventually increase. Historical materialism provides an understanding of economic development: it is a theory of historical directionality. To be sustainable, an economy must promote the development of its productive forces.

Howard, Michael C.; John E. King (2008): *The rise of neoliberalism in advanced capitalist economies: A materialist analysis*, Palgrave Macmillan, Houndmills, Basingstoke, UK.

94. Globalization and neoliberalism. Neoliberalism sees free international flows of capital and goods as the best way to reduce poverty and unemployment. Free markets are viewed as self-regulating social institutions that can deliver the best results in terms of satisfaction of economic needs. Any malfunctioning (poverty, unemployment, economic crises) is due to interferences in the market system that constrain their behaviour (public intervention or old-fashioned social practices). The neoliberal recommendation is to remove those constraints and make social and economic structures more ‘market friendly’.

95. Criticism to neoliberalism. (1) In poor countries, trade liberalization has been followed by more inequality and poverty, less growth and more frequent economic crises. (2) Rich countries embraced protectionism and state intervention to become rich, the opposite to what its prescribed to the poor countries.

Shaikh, Anwar; ed. (2007): *Globalization and the myths of free trade: History, theory, and empirical evidence*, Routledge, London and New York.

96. Ideological support for the current global economic structures and rules. Two doctrines provide ideological support for the current global economic structures and rules: free markets (governments should not establish obstacles to domestic private economic activity) and free trade (governments should not establish obstacles to international private economic activity involving the circulation of goods). The doctrines endorse the presumption that there is a self-adjusting free trade equilibrium which also happens

to maximize social welfare. Specifically, international trade is supposed to be manageable through exchange-rate adjustments, that occur spontaneously or are administered by countries individually and independently. Heterodox economists contend that these doctrines misinform global economic policy and contribute to perpetuate global imbalances that threaten global economic stability.

- Can 'markets' replace, at the international level and in a sufficiently satisfactory way, global governance and institutions for collective action?
- Can national democracy be extended at the global level and create a global democracy?
- Does the world need a global Marshall Plan to help developing countries to develop and reduce international inequality?

97. Is Western civilization trapped in the grip of two inhibiting ideologies, positivism and market fundamentalism (Oreskes and Conway, 2014)? Is the ultimate paradox of neoliberalism that this ideology is meant to ensure individual freedom above all but eventually requires large-scale government intervention?

98. Are beliefs subject to 'progress'? Do beliefs 'improve'? Why does religion (and superstitions) appear immune to the spread of material values and the exposition to scientific information? That this phenomenon point to an inherently insolvable social tension, with the potential of breaking the stability of a hypothetical global society? Are the Western values and ideas (rationalism, self-criticism, disinterested search for truth, separation of church and state, rule of law, equality before the law, freedom of conscience and expression, human rights, liberal democracy) morally superior to other values?

[In *Drunk with blood: God's killings in the Bible*, 2010, Steve Wells counts the number of persons killed by God in the Bible. Using numbers provided in the Bible, the number is 2,476,636 (Satan, 10). His estimated total is that God killed 24,634,205 persons (Satan only 60).]

IV. The financial front of globalization

99. Is globalized finance destroying the economy? Technological advances reduce the need of labour in production. Instead of creating a leisure economy it appears that those advances are forcing employees to work overtime to repay debts incurred because of insufficient wages. There is a global debt overhead that increases faster than the value of global production (the economy's ability to pay). Economies (national and global) are endangered by the privilege granted to the financial sector to generate debts without regard to the wealth creation process that ensures debt repayment. It is very difficult for physical wealth to expand exponentially but financial wealth can grow exponentially with certain ease (money is just numbers on a computer screen, mere accounting entries: can be created in huge amounts immediately). The financial sector is autonomous and plays according to its own rules: the casino rules.

100. Two kinds of progress. Traditional idea of progress: from 1945 to 1980, the dominant idea was growth in living standards (children inherit a better world than their fathers). The neoliberal (pro-financial) idea: since 1980, the financial sector (banks, financial investors) want the economic surplus (growth in wages and corporate profits) for themselves, so the benefits of an expanding economy are concentrated on a small percentage of population (which does not leave much room for the rise in living standards).

Hudson, Michael (2012): *Finance capitalism and its discontents: Interviews and speeches 2003-2012*, ISLET, Dresden.

101. Laws of capitalist economies (Michael Hudson)

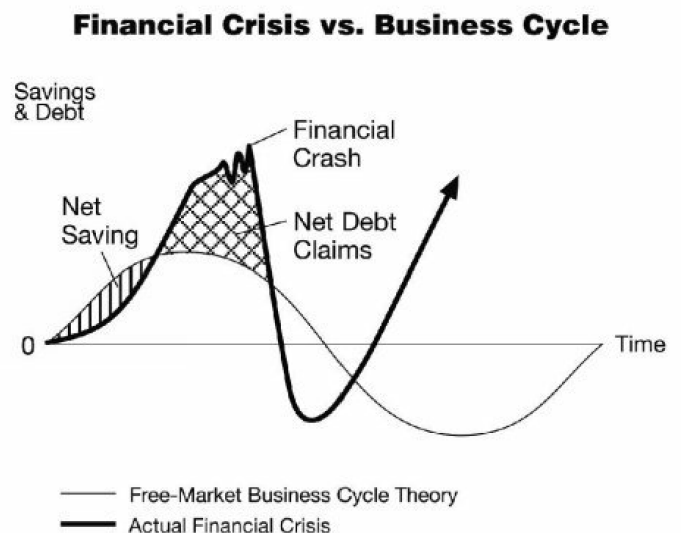
- “The inexorable tendency of debt to grow beyond the ability to be paid.”
- “There is no way to sustain the rise in debt without killing the economy.”

“Neoliberals say they're against government, but what they're really against is democratic government. (...) As Germany's Wolfgang Schäuble said, 'democracy doesn't count.' Neoliberals want the kind of government that will create gains for the banks, not necessarily for the economy at large. Such governments basically are oligarchic. Once high finance takes over governments as a means of exploiting the 99%, it's all for active government policy – for itself.”

Hudson, Michael (2017): *J is for junk economics: A guide to reality in an age of deception.*

102. Complementary currencies. A complementary currency is a currency not issued by a national public authority (a government, a central bank: state-issued currency) having the monopoly to issue currency. A complementary currency is not supposed to necessarily satisfy all the usual properties of money (medium of exchange, store of value, unit of account, means of payment, means to settle debts): it suffices for the currency to satisfy at least one of them. Complementary currencies help to protect local economies and local communities and contribute to separate the global financial sector from the local/regional real sector (as big corporations cannot send complementary currency abroad to avoid paying taxes). Two examples of complementary currencies are the Bristol pound (a community currency launched on 19 September 2012 in Bristol, UK) and the WIR franc (a private, electronic currency issued and managed by the Swiss WIR Bank).

https://en.wikipedia.org/wiki/Community_currency



https://en.wikipedia.org/wiki/Bristol_Pound | https://en.wikipedia.org/wiki/WIR_Bank

https://en.wikipedia.org/wiki/Complementary_currency

Blanc, Jérôme; Marie Fare (2013): "Understanding the role of governments and administrations in the implementation of community and complementary currencies," *Annals of Public and Cooperative Economics* 84(1), 63-81.

Meyer, Camille; Hudon, Marek (2017): "Alternative organizations in finance: Commoning in complementary currencies," *Organization* 24(5), 629-647

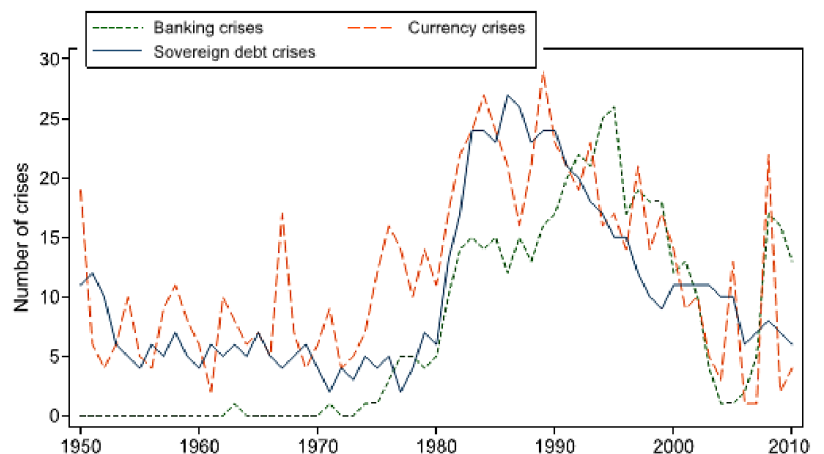
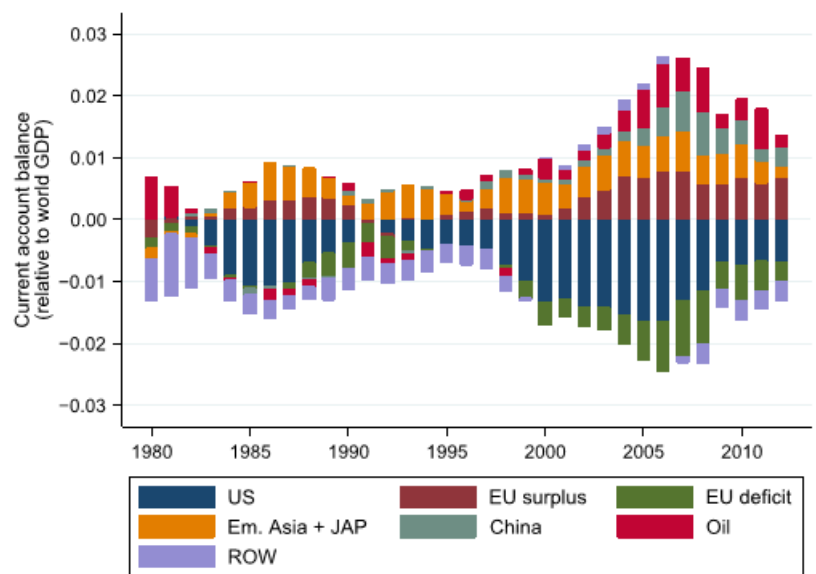
Peacock, Mark S. (2014): "Complementary currencies: History, theory, prospects," *Local Economy* 29(6-7), 708-722.

Seyfang, Gill (2000): "The euro, the pound and the shell in our pockets: Rationales for complementary currencies in a global economy," *New Political Economy* 5(2), 227-246

Spano, Alessandro; John Martin (2018): "Complementary currencies: What role should they be playing in local and regional government?," *Public Money and Management* 38(2), 139-146.

103. Stylized facts of global trade and finance

- In the period 1985-2012, foreign direct investment (FDI) become more volatile and grew faster than exports (in the period 1975-1985, trade grew faster).
- Persistent global imbalances appear to contradict the free trade doctrine: in the post 1985 era, external deficits by (mostly) developed countries are matched by external surpluses by (mostly) developing countries. The US has accounted for a large share of global external deficits, whereas China has accounted for a large share of global external surpluses.
- The above facts have coincided with an extraordinary growth of transnational corporations. Intra-firm trade of transnational corporation seems to represent one third of global trade.
- Financial globalization dwarfs trade (and FDI) globalization. World GDP itself is many times smaller than the value of non-FDI financial capital flows, most of which is speculative capital.
- For certain internationally traded commodities, it is no longer true that developed countries employ the newest production technologies, plants or equipment. In some industries, developing countries enjoy a double advantage over developed countries: lower wages and more productive technologies.



Ron Baiman (2017): *The global free trade error: The infeasibility of Ricardo's comparative advantage theory*, Routledge, London and New York.

Andreas Steiner (2016): *Global imbalances, financial crises, and central bank policies*, Academic Press, London, pp. 6, 8.

104. The efficient market hypothesis: the orthodox representation of financial markets. The efficient market hypothesis, held by orthodox economists, views financial systems as mechanisms that, left to themselves, reach an optimal steady state equilibrium. According to this view, asset market prices always and everywhere correctly reflect the assets' true (or fundamental) value. Asset price movements are simply the market response to external shocks, mainly represented by information changes. As a corollary, asset price bubbles or busts (as commonly understood) do not exist: any observed wild price swings is the market response to a change in the fundamentals (the factors that establish an asset's true value).

Cooper, George (2008): *The origin of financial crises: Central banks, credit bubbles and the efficient market fallacy*, Harriman House, Petersfield, UK.

105. The heterodox view of financial markets. The heterodox view regards the financial system as inherently unstable, with no steady state equilibrium and with an in-built tendency to generate boom-bust cycles that severely damage the economic activity in the real sector (production, consumption and employment). In this alternative view, if unregulated, financial markets are engines that create asset price bubbles that are in turn followed by credit crunches. To control this instability, and provide a stabilizing influence on economic activity, central banks must manage credit (debt) creation. The risk is that if this control is not conducted properly, central bank policies (and central bank mistakes) may amplify boom-bust financial cycles and exacerbate the damaging effects on economies. No one knows the 'equilibrium' prices in financial markets. The behaviour of market participants tends to move market prices away from equilibrium prices. The advantage of public authorities is that they are better positioned to ascertain the intensity of a market disequilibrium and to take into account the social consequences of allowing disequilibrium states to persist.

- "Blind faith in the efficiency of deregulated financial markets and the absence of a cooperative financial and monetary system created an illusion of risk-free profits and licensed profligacy through speculative finance in many areas." UN (2009)

United Nations (2009): *The global economic crisis: Systemic failures and multilateral remedies*, Report by the UNCTAD Secretariat Task Force on Systemic Issues and Economic Cooperation.

V. The environmental front of globalization

- 106. Has humanity been changing the climate since the onset of agriculture?** (Even before civilization started the war with nature?) An anomalous rise in the methane trend coincided with the beginning of irrigation for rice in Southeast Asia. Natural processes fail to explain why new ice sheets have not reappeared in northeast Canada when the cycles of Earth's orbit predict that they should have. Thus, had humans not begun agriculture, there would now be a gigantic, continental ice sheet covering regions of Canada (W. F. Ruddiman, 2010, *Plows, plagues and petroleum: How humans took control of climate*).
- 107. Is capitalism eventually self-destructive?** The industrial capitalist society has created a chasm between society and nature, when the former cannot subsist independently of the latter. By destroying nature, the capitalist society destroys itself. The expansionary trends of a global capitalist economy places burdens on the planet and endangers its regenerative capacity.
- 108. Anthropocene.** Term coined by atmospheric chemist Paul Crutzen that refers to the geological epoch in which humanity is capable of causing short-term changes in the planet. Fronts on which the planet is being assaulted by human activities: climate, ocean acidification, stratospheric ozone depletion, the nitrogen and the phosphorus cycles, global freshwater use, land use, biodiversity loss, chemical pollution. The term captures the idea that biogeochemical cycles, the atmosphere, the ocean, and the earth system as a whole are no longer immune to the human economy. It is preceded by the Holocene (the period started 10k-12k years ago).
- 109. The global ecological rift.** It is the break in the relationship between the world economy and the planet arising from a continuously expanding world economy. There are insurmountable physical boundaries to economic expansion beyond which the planet's ecological viability is compromised. Are there thresholds (tipping points) for those fronts from which no return is possible? Has any of those thresholds been already crossed?
- 110. Social vs natural scientists.** Social scientists do not appear to have risen to the challenge: even if the global problem is acknowledged, no real attack has been proposed or deemed necessary. "Sustainable (green) capitalism" is claimed to provide the solution. The real objective seems to be preserving capitalism rather than preserving the planet. "Saving" the planet is a new opportunity to make profits. A new capitalism can coexist with the planet. It is natural scientists who appear to be more concerned about the burdens industrial capitalism imposes on the planet.
- 111. Social sciences and social order.** J. D. Bernal: "the backwardness and emptiness of the social sciences are due to the overriding reason that in all class societies they are inevitably corrupt". The reason for the comparative underdevelopment of the social sciences is that they are circumscribed by and often subservient to the established order of power. Social sciences seem in practice more concerned with preserving the existing social order than facilitating (necessary or desirable) changes in the social order. In normal circumstances, the social sciences do not lead: they follow (stable social environment creates a conservative social science). When the social order is disrupted, social sciences have the best opportunity to advance and make relevant achievements.
- 112. Social sciences.** Mainstream social science has developed a static and ahistorical (sometimes anti-historical) character and adopted reductionism, abstract empiricism, and anti-naturalism (divorce from the natural environment in which societies exist). "Little or nothing in human society makes sense except in the light of history".

Foster, John Bellamy; Brett Clark; Richard York (2010): *The ecological rift: Capitalism's war on the earth*, Monthly Review Press, New York.

- 113. Big threats to 21st century world economy.** Threat of scarcity and threat of abundance: ecological catastrophe (how it affects the future of life on Earth) and automation (how it affects the future of work in economies).
- 114. Magnification.** Globalization multiplies the human impact on the planet. Many consequences of this impact will remain even if globalization stops or reverts. At present, drinkable water sources are being depleted, soils eroded, glaciers melting, sea ice diminishing, fish stocks disappearing, extreme storm events increasing in frequency, human population growing...
- 115. Are we too many?** Currently at some 7.3 billion, population grows by about 80 million per year. Around one billion suffer from hunger. The population explosion in the world after World War II was facilitated by the diffusion of medical care to underdeveloped countries (thanks to institutions like the World Health Organization and UNICEF). The demographic dividend (more young than old people allowing the economy a financial surplus) will eventually fade away and the situation reverse when the boomers retire (will there be enough people to play for the pensions? How will an aging population be supported?).
- 116. Increasing CO2 concentration in the atmosphere.** The burning of fossil fuels and cutting down of forest have emitted, since the start of the industrial revolution, more than 0.5 trillion tons of CO2. This has created the highest concentration of CO2 in the last 800,000 years. In 2013, global concentration of atmospheric carbon dioxide reached 400 parts per million, a threshold unsurpassed in the last 3 million years.
- 117. Ocean acidification.** Since the seas and the atmosphere exchange gases, part of the atmospheric CO2 ends up in the oceans, thereby contributing to its acidification. Ocean acidification has been called *global warming's equally evil twin* (Jane Lubchenco), as it changes the chemistry of seawater.
- 118. Limits to growth (Meadows et al., 2005)**
-
- **Increasing cost of sustaining growth.** An expanding population combined with an increasing accumulation of physical capital requires more resources to be diverted to cope with global ecological constraints (depletable natural resources and limited absorption capacity of emissions). This will eventually restrain the capacity of expanding production and the sustainability of economic growth.
 - **Scenarios.** The inability to continuously sustain an expansion of production will cause a population contraction. (1) The end of growth takes the form of a collapse (rapid decline in output, population, health and an increase in conflict, inequality, ecological devastation following a growth overshoot). (2) It may take the form of a smooth adaptation to the Earth's support capacity (through some corrective action).
 - **The big question.** Has humanity already overshoot the Earth's carrying capacity (surpassed the global ecological constraints?).
 - **Evidence of soft landing or apparent success in attaining sustainable growth?** During the last decades: new technologies to lower pollution have been developed, consumers have adapted habits, international agreements have been signed, new institutions have emerged, higher income levels have reduced population growth, more widespread awareness of environmental problems... humanity already overshoot the Earth's carrying capacity.
 - **The global challenge.** A sustainable world economy demands that the poorer countries reach higher consumption levels. This transition will have to be accompanied with technological, social and political changes consistent with long run goals. Those changes will need decades, but meanwhile the ecological footprints of humanity become bigger.

- **Three outlooks.** (1) Optimism: with adequate information, people will choose the right solution (global solutions to avert overshoot or, at least, collapse). (2) Cynicism: people will not stop responding to just short term goals and will not sacrifice current welfare levels to benefit future generations (reality will be ignored). (3) Middle road: lessons will be learned the hard way (a sustainable path will be reached, and collapse averted, only after having suffered global crises resulting from inaction or insufficient responses, but at the price of exhausting resources, losing attractive options, suffering more inequality and tolerating more conflict).

Meadows, Donella; Jorgen Randers; Dennis Meadows (2005): *Limits to growth: The 30-year update*, Earthscan, London.

119. Coase theorem (Ronald Coase). “Let exclusive property titles to the environment be defined, and let them be transferable. Let there be no transaction costs. Let individuals maximize their utilities, and let them be non-altruistic. Then a bargaining solution among different users of the environment will result in a Pareto-optimal allocation of the environment. The resulting allocation is independent of the initial distribution of property titles.”

Siebert, H. (2008): *Economics of the environment*, Springer, Berlin.

Wiesmeth, Hans (2012): *Environmental economics: Theory and policy in equilibrium*, Springer, Berlin.

“The negotiations are currently still in a deadlock because short-term national interests are blocking a prompt and effective global climate protection agreement...”

German Advisory Council on Global Change (WBGU) (2009): *Solving the climate dilemma: The budget approach*, Berlin.

“...the reasons for Americans’ failure to recognize the great significance of climate change is that we are wedded to an economic model and practices that privilege competition over cooperation, selfish pursuits over promoting the common good, and greed over generosity. Ingrained in American society and practices are emphases on “big,” “fast,” “efficient,” “competitive,” and “profitable.” We Americans have not especially privileged “sustainable” in our communities, society, and economy.”

Judith Blau (2017): *The Paris Agreement: Climate change, solidarity, and human rights*, Palgrave Macmillan, Cham, Switzerland.

“... Pericles wisely observed that ‘where there is no vision, the people shall perish.’ Today, a lack of vision with respect to climate change adaption and mitigation will lead to populations and nations that indeed perish from flooding, drought, health crises and environmental destruction. The signs are clear and undeniable in all parts of the world where weather phenomena triggered by climate change are becoming increasingly evident and dangerous. Climate projections for the year 2100 are daunting...”

Ross Michael Pink (2018): *The climate change crisis: Solutions and adaption for a planet in peril*, Palgrave Macmillan, Cham, Switzerland.

120. History is an opportunity to learn from past mistakes. The greatest risk to humanity in coming decades is the continuous damage to the environment to a degree incompatible with the current standard of living, or even incompatible with the existence of humanity. All pre-industrial societies were vulnerable to collapse: a local intense decrease in human population and/or in political, economic, or social complexity.

- Easter Island is a spectacular historical example of collapse. When humans settled, the environment was rich; eventually, forest were completely cleared and most bird species become extinct. Other examples: Mangaia, Mangareva, Rapa, low Marquesan islands, parts of New Caledonia, parts of Fiji. In some islands in the Pacific the result was complete abandonment. Some Native American societies (like the Anasazi) in the U.S. Southwest before 1492 constitute another example of collapse.
- Despite the fact that societies apparently tend to approach the margin of what the environment can support, in the past collapse was not the necessary outcome: many societies have existed continuously

for thousands of years without any signs of collapse (Japan, Java, Tonga, Tikopia, Tahiti, Rarotonga). Are modern (technological advanced societies) immune to collapse?

- Why, when environmental disaster seems apparent, measures are not always taken to avert disaster? How to differentiate environmental factors (deforestation, salinization, soil nutrient exhaustion, drop of water tables, drought) behind collapse from cultural/social factors?

121. Jared Diamond's (2000) explanation of collapse: “people living in fragile environments, adopting solutions that were brilliantly successful and understandable in the short run, but that failed or else created fatal problems in the long run when confronted with external environmental changes or human-caused environmental changes that people without written histories or archaeologists could not have anticipated.”“Past societies faced frequent ecological crises of small amplitude over small areas. Modern global society faces less frequent but bigger crises over larger areas.”

122. Are non-ambiguous the lessons of the past? The response to the environmental crises in Western Europe between the 14th and 18th centuries was innovation and intensification. This response was flexible, broad, decentralized and protracted. Based on this experience, is alarmist the claim that, under the current pattern of global resource exploitation, the future of humanity is at risk? Butzer (2012) contends that one should not ignore the resilience and the capacity of readaptation of societies. Social stress creates the conditions and incentives to try new ideas and solutions, above all in societies favouring bottom-up options, in contrast to the authoritarian strategies characteristic of pre-industrial societies.

123. Intensification. According to Tainter (2006), the big question at present is whether intensification can continue indefinitely. The view of orthodox economists is that new technologies and new resources to address all kinds of problems will always be found: the future is always promising. The alternative view is that the present global civilization is like any other previous civilization, in the sense that no civilization can survive the destruction of its natural base. Economies depend on ecosystems. What is the future of an economy shrinking forests, eroding soils, depleting aquifers, collapsing fisheries, raising temperature, melting ice sheets...? Collapse in the past was typically preceded by the spread of hunger (hunger at the global scale has not yet disappeared).

124. Technology and complexity. Modern societies rely on a continued improvement of technology. This makes economies increasing complex and all its components more interdependent. As a result, economies are more vulnerable to shocks. The infrastructures required to maintain the stability and complexity of modern economies (electrical power, water and food supply, communication, transportation, health care, defense, finance) are increasingly intertwined, so that troubles in one component more easily may spread to other components.

125. The Malthusian law: humanity cannot defeat nature. Thomas Robert Malthus (1766–1834) put forward the thesis that population growth is (at least eventually) faster than agricultural growth (food production) and that, in fact, population tends to increase beyond the numbers that can be fed. This thesis questioned the sustainability of an increasing population. As a result of the different potential capacity of population and food supplies to expand, a continued population growth will be negatively checked by food shortages, poverty, deprivation and diseases. Hence, if population is not positively checked (measures that reduce fertility), its growth will come to an end through famine (insufficient food supply). Malthus did not see in technological progress an escape from this law: increases in population are always dangerous and stimulated by increasing prosperity, so technological improvements merely increase the size of population checked down by famine. A modern, environmental version of the Malthusian law is that population growth is, by necessity, limited by the natural environment.

126. The Malthusian view. By extension, a Malthusian view can be defined according to which population (population growth, specifically) is the source of all problems. A continued population growth will worsen existing problems and generate new ones. According to Robert May (1993), “the continuing growth of human populations (...) is the engine that drives everything.”

127. Kenneth Boulding’s theorems on population. (1) **The Dismal Theorem.** If the only ultimate check on the growth of population is misery, then the population will grow until it is miserable enough to stop its growth. (2) **The Utterly Dismal Theorem.** Technical improvements can only relieve misery temporarily: since, by The Dismal Theorem, misery will ultimately check population, the final result of any technical improvement is increase the amount of people that will live in misery and, accordingly, the total amount of human misery. (3) **The Moderately Cheerful Form Dismal Theorem.** If misery and starvation is not the only way to keep a prosperous population in check, population does not have to grow until it is miserable and starves, so it can be stably prosperous.

128. Bartlett’s Laws of Sustainability. (1) “Population growth and/or growth in the rates of consumption of resources cannot be sustained”. (2) “The larger the population of a society and/or the larger its rates of consumption of resources, the more difficult it will be to transform the society to a condition of sustainability”. These two laws imply that the concept of sustainable growth is an oxymoron.

Bartlett, Albert A. (1998): “Malthus marginalized : The massive movement to marginalize the man’s message,” *The Social Contract*, 239-252

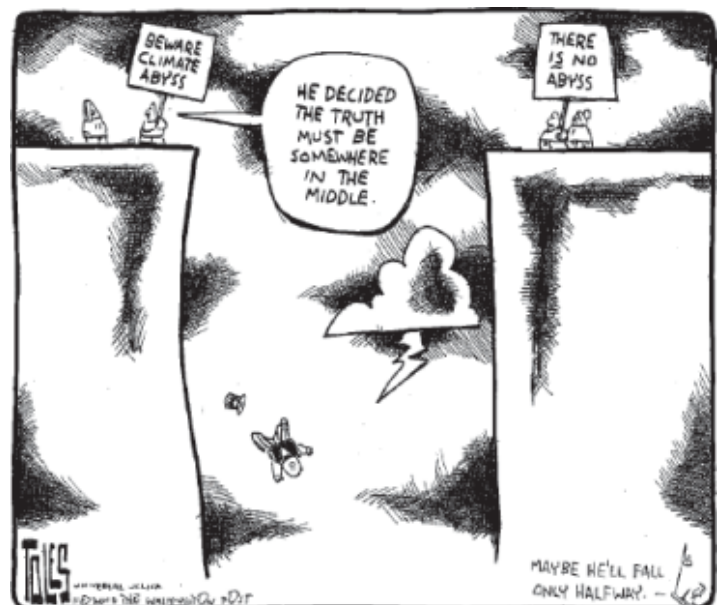
Boulding, Kenneth (1971): “Foreword to T. R. Malthus, *Population, The First Essay*,” in *Collected Papers, Vol. II*, Colorado Associated University Press, Boulder, pp. 137-142.

Bartlett, A.A., (1994), “Reflections on sustainability, population growth, and the Environment,” *Population & Environment* 16(1), pp. 5-35.

129. Global environmental threats: ozone depletion. The stratospheric ozone layer (acting like a sunscreen) absorbs the portion of the ultraviolet light (UV-B radiation) that is harmful to most life on Earth (UV-B radiation cause damage to eyes, skin, genetic material, the immune system...). Excessive UV-B exposure is likely to compound its effects on the ecosystem with other global environmental threats: global warming, ocean acidification and pollution. The 2008 Antarctic ozone hole was one of the largest and most long-lived. The biggest ozone hole over the Arctic occurred in 2011.

Abbasi, S. A.; Tasneem Abbasi (2017): *Ozone hole: Past, present, future*, Springer, New York.

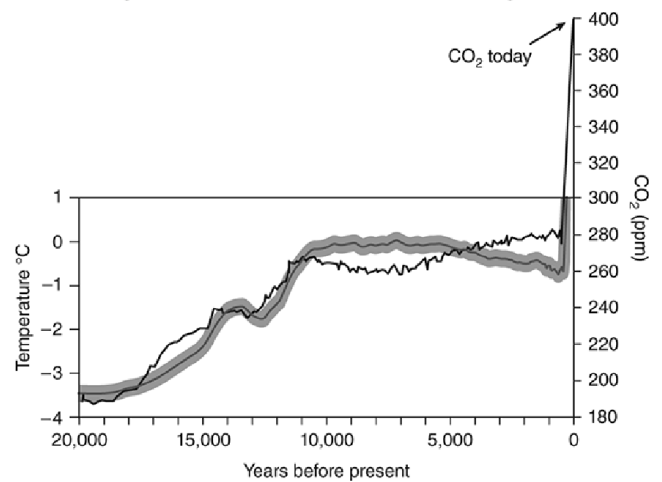
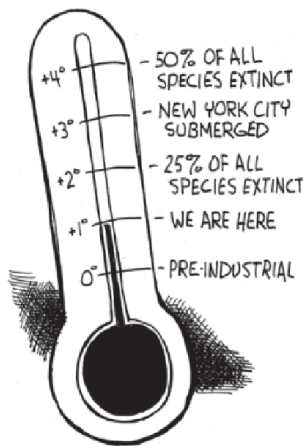
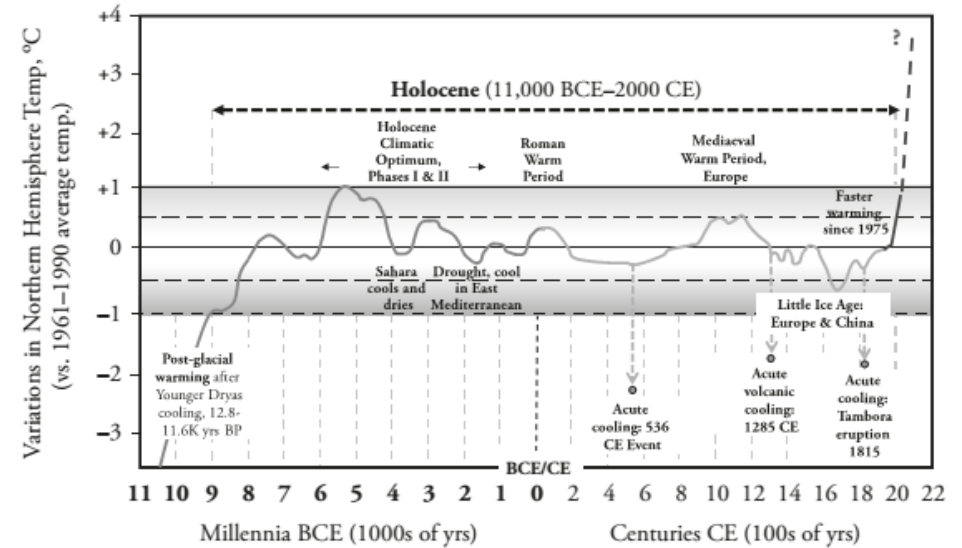
130. The virtue is not always on the middle ground. On certain debates that rely on matters of fact and objective information (like climate change) supporting the view that there are two equal sides implicitly justifies bad-faith skepticism (skepticism that does not intend to improve understanding of reality and that simply claims that it is legitimate to doubt about everything). Regarding the issue of whether climate change is human-caused, the weight of the sides (publishing scientists) is something like 97% against 3%.



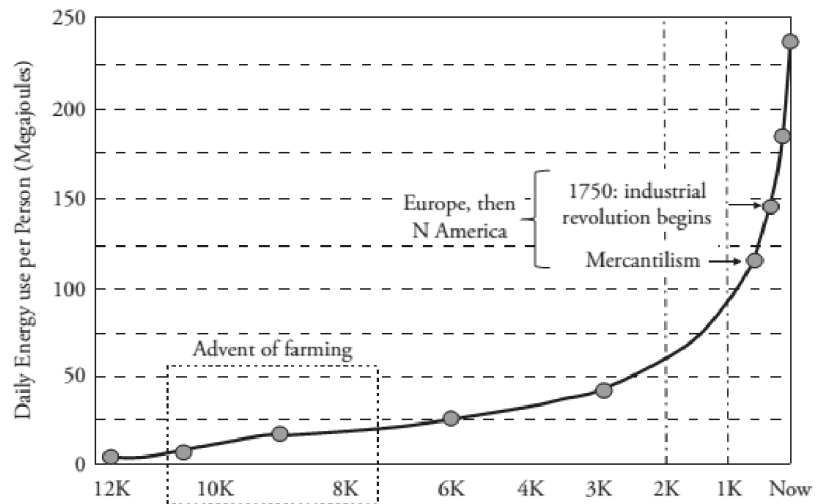
131. The hockey stick curve. It is a graph depicting temperature trends in the last millennium. It

shows the unprecedented nature of modern global warming. The scientific community has reached a general consensus that climate change is real (it is actually occurring), caused by the activity of human beings and already a problem.

132. CO₂ emissions. Human activity generates more than 30 billion tons of CO₂ pollution per year. Averaging the weight of a human being at 70 kg, these 30 gigatons are equivalent to the weight of 428,5 billion people. So the annual weight of CO₂ emissions is some 60 times the total number of people on the Earth.



133. Ecological footprint. The ecological footprint is an estimate of the amount of resources, production, consumption and waste used by an individual. Its units are planet units: the number of planet Earths needed if every individual lived the way the individual lives. This footprint is growing. Total human demands exceeded Earth's biocapacity around 1980. Currently the demand requires the equivalent biocapacity of 1.5 Earths to feed, provide materials, regenerate, self-replenish and absorb wastes.



134. Energy use. At the onset of the agricultural revolution (some 10,000 years ago) farmers used 20 megajoules of energy (physical labor) daily. The average North American now operates daily on at least 1,000 megajoules. The current global average is around 250 megajoules.

135. Has humanity been climately fortunate? During the Holocene, the last 12,000 years, the global climate has been relatively constant. Average global surface temperature: 15°C. Regional decadal- average temperatures rarely have exceeded 2°C. In Europe, temperatures between the peak Medieval Warm and the Little Ice Age nadir differed by some 1.5°C. So the trajectory of the world economy since the agricultural revolution has been blessed by a (extraordinary?) stable global climate. How much could this lucky conditions last? Now, humanity faces changes in the global climate greater and faster than anything in

recorded human history. The world may be heading towards an average global warming of up to 4°C during the 21st century.

136. Message on Climate Change to World Leaders. “Human-induced climate change is an issue beyond politics. It transcends parties, nations, and even generations. For the first time in human history, the very health of the planet, and therefore the bases for future economic development, the end of poverty, and human wellbeing, are in the balance. If we were facing an imminent threat from beyond Earth, there is no doubt that humanity would immediately unite in common cause. The fact that the threat comes from within—indeed from ourselves—and that it develops over an extended period of time does not alter the urgency of cooperation and decisive action.” Signed by over 4,000 scientists worldwide, July-August 2014.

Mann, Michael E.; Tom Holes (2016): *The madhouse effect: How climate change denial is threatening our planet*, Columbia University Press, New York

Maslin, Mark (2014): *Climate change: A very short introduction*, Oxford University Press, Oxford, UK.

McMichael, Anthony J.; Alistair Woodward; Cameron Muir (2017): *Climate change and the health of nations: Famines, fevers, and the fate of populations*, Oxford University Press, New York.

National Academy of Sciences; The Royal Society (non-dated): *Climate change: Evidence and causes*.

Westergård, Rune (2018): *One planet is enough: Tackling climate change and environmental threats through technology*, Cham, Switzerland.

137. Gaia theory. It is the view that planet Earth is a self-regulating system consisting of the totality of living organisms, surface rocks, ocean and atmosphere theory. All these elements interact as an evolving system. The theory ascribes a goal to the system: the surface conditions on Earth are self-regulated to be favourable to preserve existing life. Earth system science developed from Gaia theory by retaining the view of Earth as a dynamic entity whose material and living parts are coupled and that self-regulates its climate and chemistry, but by rejecting the claim that self-regulation has the goal of habitability.

Lovelock, James (2000): *Gaia: A new look at life on Earth*, Oxford University Press, Oxford, UK.

Lovelock, James (2009): *The vanishing face of Gaia: A final warning*, Basic Books, New York.

Dawson, Jonathan; Ross Jackson; Helena Norberg-Hodge (2010): *Gaian economics: Living well within planetary limits*, Permanent Publications, Hampshire, UK.

138. Global energy dilemma. A stable economic development depends on enough energy resources being available. The dilemma is that the energy contest between renewables and non-renewables (fossil fuels) is weighted in favour of the infrastructures, strategies and interests of the oil majors. The transition probably requires new players but the existing players have an almost complete power to block entrance. The transition is relatively straightforward, as the new technologies exist and the annual cost of implementing it is moderate (less than 2% of GDP). The obstacles preventing the transition are political: particular interests dominate at the national level, and national interests at the global level (Gwynne Dyer, 2008, *Climate wars*).

139. The PAT formula: I = PAT. The environmental impact I of a society equals the product of population P (demographic causes/factors), affluence A (capital accumulation) and technology T (A and T summarize the socioeconomic cause). The component A can be expressed as $\frac{K}{L} \cdot \frac{Y}{K}$, where K represents the capital stock, L population and Y aggregate production (GDP). The ratio $\frac{K}{L}$ is a measure of the intensification of the economy (how much capital per person is available to produce) and the ratio $\frac{Y}{K}$ is the average productivity of the capital stock (how much production each unit of capital generates). The component T can be decomposed as $\frac{E}{Y} \cdot \frac{\text{impact}}{E}$, where E stands for “energy” (so E/Y is the amount of energy per unit of product) and $\frac{\text{impact}}{E}$ measures the environmental impact per unit of energy used in production.