A New Future for Economics: Theory and Praxis.

Presentation to JGU Centre for New Economics.

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My journey through diverse economic landscapes

- Environment to Economics (entropy and the economic process).
- Natural to social sciences (Girvan: loss of vision in social sciences)
- Climate Change
- Environmental and Ecological Economics.
- Sustainability and complexity theory.
- Poverty and Sustainable Livelihoods
- Human development vs economic growth (Sen, Anand, et al)
- Legal Empowerment of the Poor (Informality, Law, Economics, Development.)

Crisis of vision in modern economic thought (Heilbroner& Milberg 1995)

- A deep and widespread crisis affects modern economic theory, a crisis that derives from the absence of a "vision"--a set of widely shared political and social preconceptions--on which all economics ultimately depends
- Widespread belief that economic analysis can exist as some disembodied study.
- At its peaks the high theorizing of the present period attains a degree of unreality matched only by medieval scholasticism.
- Vision was present in all previous main economic periods and captured in some seminal text. 1)Physiocrats (Smith, Ricardo, Marx, Mill) varied socio-political trajectories of capitalism (text by Mills, 1848); 2) Walras, Jevons etc. marginalism (Text by Marshall, 1890); 3) Keynesian economics (Samuelson's text 1948)

The End of Economics ? (F. Zakaria, FP, Jan; 2019)

- During the cold war ideological and geopolitical expertise dominated the public policy space.
- At the end of cold war (1989) economics took center stage because of the expanded global markets. Asian financial crisis and role of Summers
- Hegemony of economics for 3 decades started to unravel since 2008. Economists had mistaken “beauty, clad in impressive-looking mathematics, for truth.”Krugmann. The whole intellectual edifice collapsed (Greenspan).
- Assumptions : people seek to maximize their income above all else, that human beings are rational actors, and that the system works efficiently.

Behavioral Economics

- Daniel Kahneman, Richard Thaler, and Robert Shiller show that both human beings and markets are not rational. (Slow and Fast Thinking, Nudge, Animal Spirits)
- Kahneman won the Nobel prize (2002) in economics for showing that markets are not rational but emotional.
- Shiller who predicted both the dot-com bubble that caused the crash of 2000 and the housing bubble that caused the crash of 2008 won the Nobel Prize in 2013 for his work in behavioral economics.
- Thaler's work(Nobel prize 2017) shows that assuming human beings are *predictably* irrational (Dan Ariely) is the most rational approach to studying their behavior. (Ownership, Over-confidence, Fairness and utility) Thaler's career has been a lifelong war on Homo economicus, that mythical species of purely rational hominids who dwell exclusively in the models of classical economic theory.
- If the great divide of 20th-century politics was over free markets, the key splits that have emerged in the past few years involve immigration, race, religion, gender, and a whole set of related cultural and identity issues.

Introducing Complexity

- That economics has since slipped from that pedestal is simply a testament to the fact that the world is messy.
- The social sciences differ from the hard sciences because “the subjects of our study think,” Herbert Simon.
- “Out of the crooked timber of humanity, no straight thing was ever made.” Immanuel Kant.
- How do we deal with a world that is messy, uncertain, unpredictable, non-linear, self-organizing and emergent?
- These are the exactly the characteristics of complex adaptive systems studied by complexity theory.

The Current Global Context

- Populism (politics that appeal to ordinary people who feel disregarded by established elite groups). Impacts: weakening leaders in UK, France and Germany and electing a non-leader in the US. (A leaderless world ?) G zero ?
- Globalization is a phenomenon driven by technology and the movement of ideas, people, and goods. (Schawb 2019, Globalization 4.0)
- Globalism is an ideology that prioritizes the neoliberal global order over national interests." (Ibid). Populism backlash against globalism but confused with former.
- Global governance: triple confidence crisis—in democracy, global institutions, and global corporations : Advance the accountability of large corporations, our own democracies, and global institutions (IMF, WB, WTO)
- China's Xi summed up the state of the world " unpredictable international developments and a complicated and sensitive external environment calling for vigilance against *black-swan* and *grey-rhino* ((obvious but ignored) events

Economics for a creative world. (Koppl, Kaufmann, Felin and Longo (2015) J. Inst. Econs.(11:1, 1-31.)

- Physics envy, general equilibria, predictable world. The microeconomic models of general equilibrium theory and the macroeconomic models of dynamic stochastic general equilibrium (DSGE) are important examples.
- There are no entailing laws of economic dynamics. Because economic dynamics are creative, the implicit frame of analysis for the econosphere changes in unprestatable and non-algorithmic ways.
- New-venture, social, and political entrepreneurs solve the frame problem of the econosphere by exploiting the adjacent possible
- Our central result that there can be no entailing laws of economic dynamics is a negative result. Negative results have marked the beginning of new scientific thinking on several occasions. Poincare's ´ Three Body Theorem, Heisenberg's uncertainty principle, and Godel's theorem, ¨ all opened up new ways of thinking

Network Effects (Evan Sadler , MIT(2018)

- **Network effect** (network externality or demand-side economies of scale) occurs when a good or service becomes more valuable as more people use it.
- Classic examples: Fax machine , Telephone. Contemporary examples: Operating Systems , Messaging Apps , Social Media. Matching platforms.
- Types of Network Effects :
- Direct network effects :Communication/collaboration technologies)
- Two-sided network effects : Marketplaces
- Indirect network effects : Learning spillovers, research/improvement of existing product ; development of complementary goods
- Artificial network effects :Referral programs
- Behavior of one user depends on others, multiple equilibria, tipping points, increasing returns, evolutionary growth.

Product space complexity and economic growth (Hidalgo, Hausmann, Barabasi et al.)

- The Product Space is a network that formalizes the idea of relatedness between products traded in the global economy. Heterogeneity with core (industrial) periphery (primary) products structure .
- Article in Science (2007): The product space conditions the development of nations. Its structure helps elucidate why some countries undergo steady economic growth while others become stagnant and are unable to develop.
- Analogies: Banana to mangoes rather than engines. Or monkeys in a forest . Topology of the “product space” impacts a country's ability to begin producing new goods.
- What is economic growth? And why, historically, has it occurred in only a few places? Previous efforts to answer these questions have focused on institutions, geography, finances, and psychology. understanding the nature of economic growth demands transcending the social sciences and including the natural sciences of information, networks, and complexity. (Hidalgo, 2015, Why information grows?)

Non-zero (The Logic of human destiny) Robert Wright.

- Biological, social, and technological evolution all lead to more complex social structures and continue to reinforce and catalyse change in this direction.
- Core pattern: technologies arise that permit or encourage new richer forms of non-zero sum interactions; then social structures evolve that realise this rich potential-that convert non-zero sum into positive sums. Increasing social complexity.
- Non zero sum games could also lead to negative sums (parasitism) but history seems to favour positive sums as people become embedded in larger and richer webs of interdependence.
- The relentless logic of non-zero sumness leads to globalisation, internet, complex adaptive systems .
- Product space complexity ,

Environmental and Ecological Economics

- **Environmental economics** typically operates within a neo-classical economic paradigm that assumes no limits to economic growth. It tends to rely on the notion that innovation and the market can continue to meet the needs of demand The discipline draws many of its governing principles from reductive mathematic models via physics.
- **Ecological economics**, as intrinsic to the name, examines the world from a complex systems perspective and draws interdisciplinarily from principles of biology, ecology, and various fields of sociology and ethics. Ecological economics approaches economics from a perspective that places the economy as a subset of the environment.
- **Ecological economics** accounts for ecosystem services (i.e. how much water gets cleaned by wetlands/greenspace, or CO2/oxygen gets sequestered/produced by forests [4]), and can explore issues of social resilience too.

Climate Change Economics.

- Most countries economies are fossil fuel based (coal, oil, gas) and so contribute climate change through green house gas emissions.
- Business as usual could lead to severe global warming and catastrophic consequences even existential for some.
- Attempting to reduce emissions by carbon tax, for example, has ripple effects within national economies and between nations .
- Carbon bubble :a hypothesized bubble in the valuation of companies dependent on fossil-fuel-based energy production, because the true costs of carbon dioxide in intensifying global warming are not yet taken into account in a company's stock market valuation. (USD 4 Trillion loss)
- Stranded assets: Assets/stocks which will loose their value. (Capital loss could be near USD 100 Trillion. Citibank Estimate.

Linear to Circular Economy

- Linear : inputs of raw materials (matter, energy) and information lead to outputs of desired product, waste and entropy. Such an economy cannot grow indefinitely (2nd Law). (N. Singh in Caribbean Ecology and Economics. 1989)
- Potential way for our society to increase prosperity, while reducing dependence on primary materials and energy. (*Ellen Mc Arthur Foundation and McKinsey: Growth within: Vision of a competitive model for Europe*.)
- The emergence of innovative models leads to collaborative dynamics across industries, cities, and communities that reveal new fields of sustainable value creation, such as selling services instead of products, recovering resources from waste, sharing assets, and producing green supplies.(Ibid, 2015.)
- Cradle to cradle vs cradle to grave.

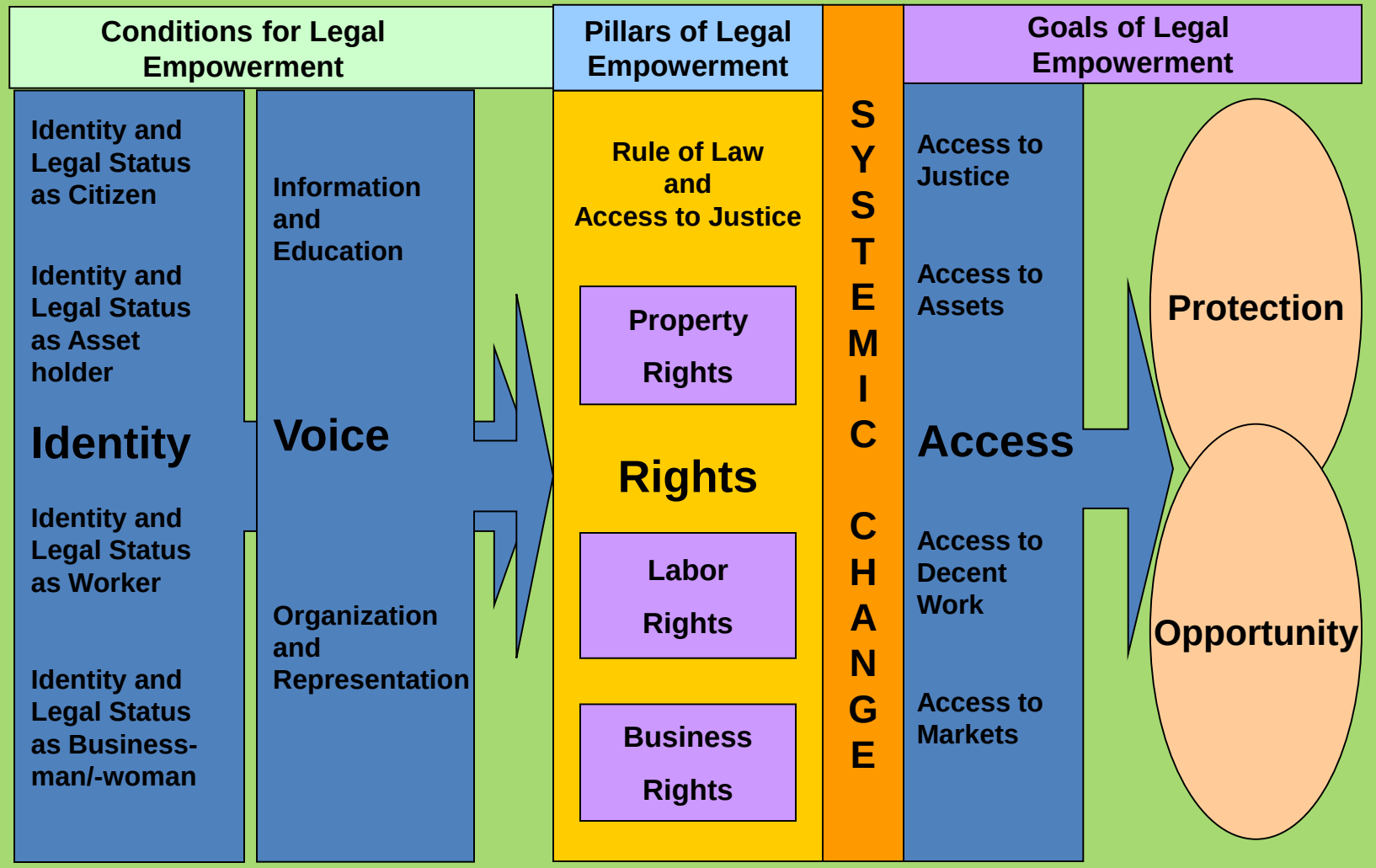
Findings of a Survey of small and micro enterprises in Brazil and India (1999)

- Enterprises included workshops refilling disposable lighters, making scissors, sharpening tools; garages spray-painting vehicles , welding , repackaging dangerous chemicals etc
- Occupational health hazards included little lighting, poor ventilation, dust everywhere, open flames and blow torches near propane cylinders, no protective gear, cooking and eating in the same location, lack of sanitary facilities
- Child labor: children under 10 years working; not in school.
- Less than minimum wages . Operators living in poverty.
- Facilities rented or ownership not legal
- No credit facilities except loan sharks
- Lack of market access, middle- men making the profits

Sustainable Livelihoods

- Start with what people have not needs. Focus on assets: human, social, natural, physical and economic assets
- Get the peoples vision of a more sustainable livelihood, their indicators of success
- To address the gap (needs) between where they are and where they want to be first identify what they can do on their own and only then the roles of outsiders
- Needs can be policy, technology, rights, market access, credit , capabilities etc.
- Outsiders work in respectful partnerships with community groups

Informality, Law and Economics



Rule of Law, Growth and Development

- Rule of Law only idea with global political endorsement. Good for a just society, but for growth or development?
- Thick definitions : democracy , political morality, constraining the power of the state, equality before the law of the ruled and ruler (more closely related to development, human rights for a human family
- Thin definitions : property rights , institutions and capabilities (more closely related to growth ?) The idea of the firm.
- Common law : better for growth ? Civil law more regulations ?
- Rule of law reforms: Judiciary, Prisons, Policing, Penal Codes, Prosecutions etc. What of culture of the RoL? But RoL more political than technical.
- Who supports RoL critical: Politicians, Legal Profession, Public, Police ?
- RoL practitioner:“deep down, we don't really know what we are doing.”

Legal Empowerment of poor women and girls

- Going beyond gender equality to full potential through LE
- Much progress has been made: education, health, jobs/pay
- But much more is needed in control over resources, domestic violence, political office, decision- making.
- Among the international legal instruments Vienna Declaration, Beijing platform etc. CEDAW is most important : gender sensitive rights based approach. But many countries have NOT incorporated it in domestic law.
- Property rights, labour rights, business rights and rights of rural women.

Can power be a positive sum game?

- Conventional and current praxis assumes NO ! It is zero sum or negative!
- Unpacking the elements of power paints different picture : power over, power to, coercive, reward, legitimate, expert, referent etc. p 192
- Expert, referent, reward could lead to + sum by using compliance gaining tactics ; coercive, legitimate might have opposite effect.
- Power lacks a single centre, it is always part of a chain, operating through networks, exercised from innumerable points, it is transitory . P 196 (Foucault et al)
- Human rights is a conduit for power relations, not necessarily emancipatory p 197-200
- Game theory and case studies show power can be POSITIVE SUM

Property Rights Registration Using Blockchain Technology: A Strategy for Poverty Reduction. (LLM Thesis :S. Bolano,PROLAW , LUC, Rome , 2017).

- Land Registry Systems: Title Systems and Deeds Systems
- Digitalisation: 61 per cent of all economies having gone digital (51 in the last 10 years)
- Blockchain is the next step : makes digital, cheaper, quicker, more transparent; generating trust; bring more people into the system and increase tax revenues.
- Starting a Blockchain registry : build on Bitcoin infrastructure; or other such as Ethereum then decide on how much , if any state intervention is needed
- Examples of Blockchain registries as of 2017: Georgia, Sweden, Ukraine,
- Countries with plans: UK, Brazil, Costa Rica, Honduras, India (some states) Dubai, Illinois (US)

Evolution of international development cooperation (IDC)

- Economic (money metric) poverty, human poverty, multidimensional poverty (3 dimensions: health, education, living standards +10 indicators)
- Theories of development: cultural, geographic, institutions, etc.
- IDC trajectory : Economic growth, social, socio-economic, human, basic needs, endogenous, sustainable, SHD, MDGs, SDGs.
- SDGs: 17 aspirational global goals to transform all countries by 2030 with 169 targets.
- Key relevant SDGs (1,2,5,10,16): End Poverty and Hunger; Reduce Inequality including Gender Inequality (143 countries, with GE in constitutions, 52 not, several with gender discrimination in law;
- SDG 16 : Peace, Justice and Strong Institutions.

Human Development Economics

- **Human development:** expansion of human capabilities, widening of choices, enhancement of freedom, and fulfilment of human rights so that people can lead lives that they value.
- Income, education, health, but also the vector of possible opportunities available to individuals in a particular state.
- HDI (life expectancy, schooling/adult literacy, GNI per capita).
- HDI in India 130/189, (2017); IHDI for India 101/151. (2016)
- IHDI : Inequality adjusted HDI.
- Human development vs economic growth.

SDGs Guiding Principles and Action Agenda

- Leaving no one behind – reaching those furthest behind first:
- Universality: commits all countries to contribute towards a comprehensive effort for global sustainability in all its dimensions – social, economic and environmental – while ensuring equity, peace and security.
- 5P's : People, Planet, Prosperity, Peace, Partnership.
- Intergenerational Equity
- Human Rights.
- Action Agenda: 17 goals, 169 targets, many indicators.

Moving to Scale for SDG achievement

- Co-impact : Network of philanthropists giving 10 to 50 M to systems change work leaders
- EkStep: Using the idea of societal platforms to improve education of 200M children in India in 5 years
- Proposal to support Climate Smart Agriculture across SSA.
- Academy for Sustainable Innovation: training 100, 000 Canadians for transition management to SDGs.
- Holistic systems transformation through stories (see next slide)

Achieving the SDGs by 2030

- Just doing better what we have been doing so far will help but will not get us there. Speed, Scale and Sustainability of a different order.
- 4 interlinked revolutions need to be amplified (in addition to current)
- Leadership from managing to starting movements. Funding bold emerging leaders rather than projects or organizations. Uniting people around a common purpose (using social media); (Dulski, 2018. SU)
- Finance from billions to trillions : financial innovations, blended finance, impact investments, development bonds, domestic financial mobilization, (Aid =150B; Private Sector AUM =200T)
- Large Scale Systems Change (LEP etc); Use Stories to energize movements
- Technology: Blockchain, AI, Societal Platforms.

Needed directions for Economics

- Growth which is sustainable and inclusive, and reduces poverty and inequality
- Informality : rule of law and growth ; human rights and markets; economic effects of property rights, etc.
- Behavioral Economics: dealing with emotions and irrationality
- Circular Economy : climate change; environmental and ecological economics
- Complexity informed growth theory: network effects, economics in a creative world,