Horizons 2030: equality at the centre of sustainable development

Revitalizing the ‘policy-setting agenda’

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ECLAC H2030
Progressive Structural Change
“Shift towards production characteristics with 3 characteristics”

• Schumpeterian efficiency

• Keynesian efficiency

• Environmental efficiency

(EC 2020: smart, inclusive and sustainable growth)
Biggest challenge: *what is State’s role?*

Set ‘level’ playing field then *get out of the way*

Solve market ‘failures’

De-risk (and ‘facilitate’) private sector

Something … more interesting?
Policy as just ‘fixing’ markets?

- **Public goods** e.g. knowledge, clean air
- **Coordination failures** e.g. pro-cyclical investment
- **Negative externalities** e.g. pollution
- **Information failures** e.g. SME finance
- **Imperfect competition** e.g. monopolies
the assumption

private sector

vs.

public sector
"Governments have always been lousy at picking winners… As the revolution rages, governments should stick to the basics: better schools for a skilled workforce, clear rules and a level playing field for enterprises of all kinds… Leave the rest to the revolutionaries.”

(‘The Third Industrial Revolution’, The Economist, April 21, 2012).
Market shaping & creating

“The road to free markets was opened and kept open by an enormous increase in continuous, centrally organized and controlled interventionism… Administrators had to be constantly on the watch to ensure the free working of the system.”

Karl Polanyi, *The Great Transformation*, 1944

“The important thing for Government is not to do things which individuals are doing already, and to do them a little better or a little worse; but to do those things which at present are not done at all.”

John M. Keynes, *The End of Laissez Faire*, 1926
“A key element to get an energy breakthrough is more basic research. And that requires the government to take the lead. Only when that research is pointing towards a product then we can expect the private sector to kick in.” (Bill Gates, 2013, AEIC)

“Yes the government will be somewhat inept, but the private sector is in general inept. How many companies do venture capitalists invest in that go poorly? By far most of them.” (Bill Gates, The Atlantic, interview Nov. 2015)
1. Schumpeterian efficiency

ECLAC H2030 “..identifies the potential of different types of production specialization to spread technological change and innovation to the whole production system.”
Visible hand of the State across innovation chain

…and dynamic links between supply and DEMAND
Revolutionary behind smart phones?

Source: Mazzucato (2013), p. 109, Fig. 13
NASA’s mission is to “Drive advances in science, technology, aeronautics, and space exploration to enhance knowledge, education, innovation, economic vitality, and stewardship of Earth.” NASA 2014 Strategic Plan

“Creating breakthrough technologies for national security is the mission of the Defense Advanced Research Projects Agency (DARPA).”

“The ARPA-E mission is to catalyze the development of transformational, high-impact energy technologies.”

“NIH’s mission is to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability.”

“The mission of the KfW Group is to support change and encourage forward-looking ideas – in Germany, Europe and throughout the world.”

“The mission of BNDES is to foster sustainable and competitive development in Brazil, generating employment while reducing social and regional inequalities.”

“The mission of the BBC is to be the most creative organization in the world”
**Hirschman’s *Hiding Hand***

“generous tricks, silver linings and felicitous, surprising escapes from disaster”

“Only efficient entrepreneurial engagement by public institutions can deliver what is needed.” **ECLAC H2030**

“The design of a good policy is, to a considerable extent, the design of an organizational structure capable of learning and of adjusting behavior in response to what is learned”
**Dick Nelson and Sydney Winter, 1982**

*We measure success by how many risks we have been willing to take* (with inevitable failures) and whether the successes actually matter. **Cheryl Martin**, ex-Director ARPA-E, 2014
2. Keynesian efficiency

ECLAC H2030 “Lack of global coordination has inflicted a recessionary bias on the whole system: in order to break through this impasse and promote growth, a global Keynesian policy will be needed…

“Weak aggregate demand coexists with an excess of liquidity.”

“Weak investment hurts capacity building”
Demand vs Supply

**Macro:** Low investment even with 0 interest rate. Stagnant real wages dampen demand.

**Micro:** Finance is constrained more by demand than by supply (not enough gazelles—why?).

- **What really drives investment?** Expectations about future opportunities. Where are they?
Businessmen have a different set of delusions from politicians, and need, therefore, different handling. They are, however, much milder than politicians, at the same time allured and terrified by the glare of publicity, easily persuaded to be ‘patriots’, perplexed, bemused, indeed terrified, yet only too anxious to take a cheerful view, vain perhaps but very unsure of themselves, pathetically responsive to a kind word. You could do anything you liked with them, if you would treat them (even the big ones), not as wolves or tigers, but as domestic animals by nature, even though they have been badly brought up and not trained as you would wish.…

John M. Keynes’s letter to Franklin D. Roosevelt, 1938
Direct government funding of business R&D and tax incentives for R&D, 2010

As a percentage of GDP

Business R&D spending (BERD)
GERD as a percentage of GDP

PIIGS!!
The German lessons for Greece!

- **Middle sized firms** (small is NOT beautiful)
- **Patient long-term finance** (e.g. KfW)
- **Strong well funded science-industry links** (e.g. Fraunhofer) – & not just pushing on a string.
- High R&D/GDP
- ‘**Mission oriented**’ R&D (e.g. Energiewende)
3. Environmental efficiency

ECLAC H2030 “promoting environmental protection, and decoupling economic growth from carbon emissions”

➤ Problem is not type of finance but its quality.
**Tilting** the playing field via Demand

Source: **Carlota Perez**, “Why IT and the green economy are the real answer to the financial crisis”, *Green Alliance* 2012
Technology risk in clean tech

(venture capital will ride the wave, who will kick/push?)

Source: Ghosh and Nanda, 2011
Green tech public & private investments (2011)

- Development Finance Institutions: $123.0 bn
- Project developers (including public utilities): $102.0 bn
- Corporate actors: $66.0 bn
- Households: $33.0 bn
- Commercial Financial Institutions: $21.0 bn
- Government (budgets): $12.0 bn
- Private Equity, Venture Capital and Infrastructure funds: $1.0 bn
- Institutional Investors: $0.4 bn

Source: Climate Finance Initiative
BNDES’ disbursements for innovation by programme

(in constant 2010 BRL Million)

Source: Bastos (2012)
China Development Bank

China’s 2020 goal of producing 20% energy from renewables. 5 year plan includes $1.7 trillion dollars in 5 new (green) sectors.

CDB founded CDB Capital, a ‘public equity’ fund with $US 5.76 bn to finance innovative start-ups from the energy and telecom sectors.

_Yingli Green Energy_ received $1.7 bn from 2008 through 2012 with a $5.3 bn line of credit opened for it. **LDK Solar ($9.1 bn); Sinovel Wind ($6.5 bn); Suntech Power ($7.6 bn); and Trina Solar ($4.6 bn),**

Patient committed finance has “allowed Chinese companies to further ramp up production and drive down costs” of renewable energy technologies

Source: Sanderson and Forsythe, 2013
Evolving role of state investment banks

1. Countercyclical lending to offset the ‘credit crunch’ during economic recessions → countercyclical role

2. Funding for long-term projects, industrialization and capital development of the economy → capital development role

3. Targeting investments in high-risk R&D, innovative start-ups, and lengthy innovations, areas that private capital has proved to be too short-termist and risk-averse to venture into → venture capitalist role

4. Promotion of investments that help address complex societal problems such as climate change → mission oriented role
4. Inclusive growth

ECLAC H2030

“Demand will not grow if inequality is not reduced.”
INCOME INEQUALITY IN THE UNITED STATES, 1910-2010

SHARE OF TOP DECILE IN NATIONAL INCOME

Piketty, 2013
“I have worked with investors for 60 years and I have yet to see anyone — not even when capital gains rates were 39.9 percent in 1976-77 — shy away from a sensible investment because of the tax rate on the potential gain. People invest to make money, and potential taxes have never scared them off. And to those who argue that higher rates hurt job creation, I would note that a net of nearly 40 million jobs were added between 1980 and 2000. You know what’s happened since then: lower tax rates and far lower job creation.”

And….why did capital gains fall in 1976?
Fortune 500 companies have spent $3 trillion on buybacks over the last decade…

Source: Lazonick & Mazzucato, 2013; Lazonick, 2014
Where are energy’s Xerox Parcs & Bell Labs?

Renewable energy R&D investments in the U.S.
in million 2002 dollars

State  
1%  
Internet  
inclusive growth  
Windmill
Public-private ‘deal’ on opportunity creation

- recognition of collective wealth creation process
- reinvestment of profits (limiting buybacks/hoarding)
- public golden share of IPR
- prices reflecting tax payer input (Bayh Dole allows it)
- negotiating what is produced (e.g. generics)
- income contingent loans
- strategic use of public equity (e.g. Tesla vs Solyndra)
- % payback into an ‘innovation fund’
think again!

private sector vs. public sector


Accounting for productive investment and value creation (2014), *Industrial and Corporate Change*, M. Mazzucato & A. Shipman
