

LDC's could encourage growth by: Shifting away from their dependence on the export of primary commodities towards greater production and exports of industrial products has often been viewed as a means of their participating more effectively in the international division of labour. (UN, 2002 p.IV) *Trade and Development Report 2002*. New York: United Nations Publications

1983]

DEVELOPMENT: WHICH WAY NOW?

749

Table 1

Country	GNP per head		1980 gross domestic investment (% of GDP)	1980 share of industry in GDP (%)
	1980 Value (\$)	1960-80 Growth (%)		
Low-income				
Bangladesh	130	1.3*	17	13
Ethiopia	140	1.4	10	16
Nepal	140	0.2	14	13
Burma	170	1.2	24	13
Afghanistan	—	0.9*	14	—
Zaire	220	0.2	11	23
Mozambique	230	-0.1	10	16
India	240	1.4	23	26
Sri Lanka	270	2.4	36	30
Tanzania	280	1.9	22	13
China	290	3.7*	31	47
Pakistan	300	2.8	18	25
Uganda	300	-0.7	3	6
Sudan	410	-0.2	12	14
Middle-income				
Ghana	420	-1.0	5	21
Kenya	420	2.7	22	21
Egypt	580	3.4	31	35
Thailand	670	4.7	27	29
Philippines	690	2.8	30	37
Morocco	900	2.5	21	32
Peru	930	1.1	16	45
Colombia	1,180	3.0	25	30
Turkey	1,470	3.6	27	30
S. Korea	1,520	7.0	31	41
Malaysia	1,620	4.3	29	37
Brazil	2,050	5.1	22	37
Mexico	2,090	2.6	28	38
Chile	2,150	1.6	18	37
South Africa	2,300	2.3	29	53
Romania	2,340	8.6	34	64
Argentina	2,390	2.2	—	—
Yugoslavia	2,620	5.4	35	43

Source: *World Development Report 1982*, tables 1-5. The countries included are all the ones within the 'Low-income' and 'Middle-income' categories, other than those with less than 10 million population, members of OPEC, and countries without GNP or GDP growth figures. Asterisked growth rates are based on GDP growth figures per head (tables 2 and 17).

Industrial Policy Supports

Patrick Paul Walsh & Ciara Whelan (2010). "Hirschman and Irish Industrial Policy," *The Economic and Social Review*

M.J. Killeen (1975) 'A symposium on increasing employment in Ireland'. - Dublin: *Journal of the Statistical and Social Inquiry Society of Ireland*.

Killeen (1975) states “we have come to appreciate that providing the full range of back-up services needed by industry (i.e., in addition to IDA activities, grants and other incentives) is a complex process which depends on a host of development agencies working in a planned and synchronized way: local authorities in providing water and sewerage; planning authorities, the IIRS and An Foras Forbartha in assessing and advising on complex planning application; the banks and Industrial Credit Company in completing financial packages; Coras Trachtala marketing services; AnCO and the National Manpower Services providing the trained labour force, and so on for the ES(Energy), Department of Posts & Telegraphs, CIE, (Transport infrastructure) etc.”

Killeen (1975) expands on the general equilibrium supports that are needed by export oriented manufacturing industry. “IDA has to think beyond manufacturing into; export oriented service type industries such as consulting engineering and computer software; the acquisition of a countrywide industrial land bank of some 4,000 acres; the taking of equity shareholdings in seven major industries; the stimulation of Irish enterprise in small firms with less than 50 workers under a special *Small Industries Programme*; the introduction of a scheme to foster Research and Development in Irish industries; the provision of substantial training grants for industry to provide the vitally needed skills; joint ventures, loan guarantees, interest subsidies and other financing mechanisms have been used; a regional industrial development programme based on a strategy of bringing jobs to the people; selectivity in restructuring and modernising industry with tripartite guidance by the Irish Congress of Trade Unions, the Confederation of Irish Industry and the State; attraction of fully integrated high technology projects with full R & D back-up”.

Investment Criteria in Ireland*

By W. J. L. RYAN

(Read before the Society on November 17th, 1961)

PROFIT AS A CRITERION

LABOUR-INTENSITY AS A CRITERION

BALANCE OF PAYMENTS CRITERION

LINKAGE AS A CRITERION

This criterion has been put forward by Hirschman.⁷

⁷A. O. Hirschman. "The Strategy of Economic Development," New Haven, Yale University Press, 1958, Ch. 6

⁸A project for which linkage effects are very important may be called a "key" or "dynamic" project. The notion of a key industry or "pole of growth" (pole de croissance) is apparently important in French literature on regional development and "immense importance is attached in practice to the indirect or induced effects of . . . development schemes" See *International Labour Review*, "Regional Development, Economic Growth and Employment in France," October 1959, pp. 289-318

Irish Case: Sharing the benefits of economic development

- ***Trade – the handmaiden of growth rather than the engine of growth*** (Kravis, 1970)
 - Recognition that capital formation and economic growth requires substantial political cooperation – whole of government approach (WGA)
 - Requirement for additional supply-side supports driven by policies and practices across government departments
 - Recognition that economic growth and capital formation does not necessarily lead to a fair distribution of the benefits and burdens across a community.
 - Additional institutions required to achieve improved social outcomes – whole of society approach (WSA)
 - Deliberate and target social protection instruments and to ensure that the vulnerable share in the benefits of growth and that no-one is left behind
 - External push factors essential ingredient – Ireland’s accession to the EEC, aid injections blended with progressive social legislation targeting workers rights, women’s rights, health and safety, and environmental protections.

Economic growth and social progress

- So what are the critical ingredients for capital formation and economic growth to positively reinforce social development?
- Lessons from the Irish Industrial Policy
 - The role of government
 - Strong institutions
 - Clear public policies
- The European ***Golden Growth*** model
 - Capital formation benefits from social development (highly skilled and healthy workers) and social development progresses as incomes to households and taxation for public spend are generated through capital formation.

World Association of Investment Promotion Agencies

<http://www.waipa.org/members.htm>

Ethiopian Investment Agency (EIA) www.ethioinvestment.org

Lesotho National Development Corporation www.lndc.org.ls

Malawi Investment Promotion Agency www.mipa.malawi.net

Tanzania Investment Centre (TIC) www.tic.co.tz

Zanzibar Investment Promotion Agency (ZIPA) www.investzanzibar.org

Uganda Investment Authority (UIA) www.ugandainvest.com

Zambia Investment Centre (ZIC) www.zic.org.zm

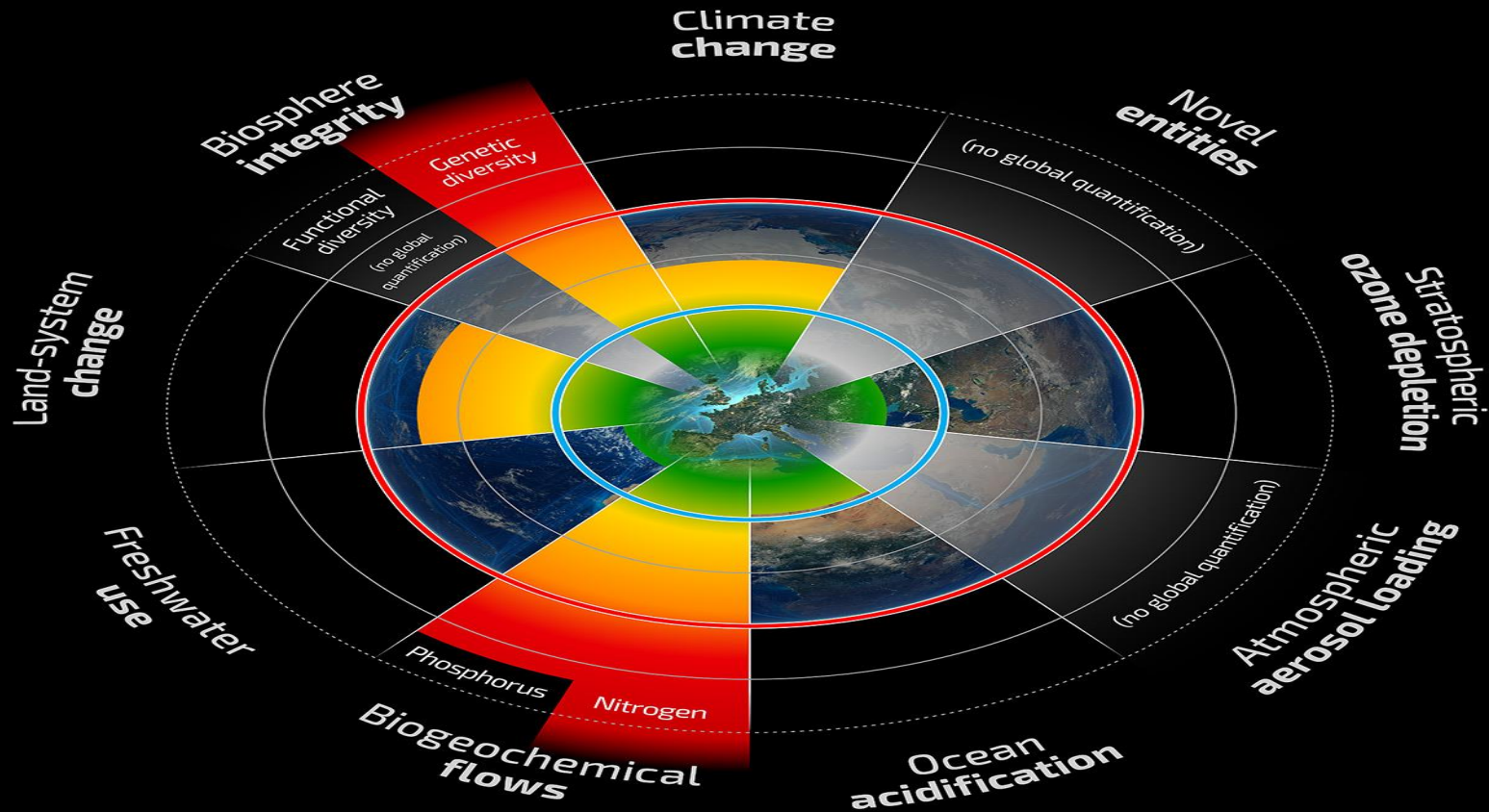
Table 5. Industrial structure of selected African countries, 2009

Low Technology manufacturing country (LT share of MVA)	LT industry 1	LT industry 2	LT industry 3
Mali (61%)	Apparel (47%)	Furniture and n.e.c. (9%)	Fabricated metal (5%)
Lesotho (55%)	Apparel (18%)	Leather (11%)	Printing (4%)
Nigeria (53%)	Furniture and n.e.c. (16%)	Fabricated metal (14%)	Textiles (10%)
Mauritius (48%)	Apparel (27%)	Textiles (8%)	Fabricated metal (7%)
Malawi (48%)	Fabricated metal (20%)	Printing (16%)	Textiles (8%)
Angola (41%)	Textiles (25%)	Fabricated Metal (6%)	Printing (6%)
Medium and high technology manufacturing country (MHT share of MVA)	MHT industry 1	MHT industry 2	MHT industry 3
Egypt (48%)	Chemicals (36%)	Machinery (5%)	Electrical machinery (4%)
South Africa (31%)	Chemicals (13%)	Motor vehicles (7%)	Machinery (6%)
Morocco (25%)	Chemicals (16%)	Machinery (3%)	Electrical machinery (2%)
Tunisia (22%)	Electrical machinery (9%)	Chemicals (7%)	Radio, TV, com. equipment (2%)
Tanzania, Untied Rep. of (26%)	Chemicals (25%)	Radio, TV, com. equipment (0.2%)	Electrical machinery (0.2%)
Nigeria (21%)	Motor vehicles (16%)	Chemicals (2%)	Electrical machinery (2%)
Resource-based manufacturing country (RB share of MVA)	RB industry 1	RB industry 2	RB industry 3
Ghana (86%)	Food (44%)	Refined petroleum (13%)	Wood (13%)
Sudan (84%)	Food (61%)	Refined petroleum (15%)	Rubber & plastics (2%)
Libyan Arab Jamahiriya (81%)	Refined petroleum (25%)	Tobacco (22%)	Food (19%)
Madagascar (79%)	Food (55%)	Refined petroleum (11%)	Tobacco (6%)
Gabon (76%)	Food (44%)	Refined petroleum (17%)	Wood (10%)
Kenya (68%)	Food (28%)	Glass & non-metallic minerals (16%)	Refined petroleum (15%)

Source: UNCTAD/UNIDO.

Planetary Boundaries

A safe operating space for humanity



- Beyond zone of uncertainty (high risk)**
- In zone of uncertainty (increasing risk)**
- Below boundary (safe)**
- Boundary not yet quantified**

Source: Steffen et al. Planetary Boundaries: Guiding human development on a changing planet, *Science*, 16 January 2015.
Design: Globaia

Structural Transformation without Economic Growth but sustainable standards of well-being

- The Planetary boundaries, science's contribution to sustainable development, have some implications to the economy and business. The concept of planetary boundaries challenges the economic beliefs that resources are either limitless or infinitely substitutable (Steffen 2012). Many economists believe infinite-resources assumption otherwise they would admit the economic growth has limits. The failing counterargument is that there are infinite possibilities of technology and resource substitution (ingenuity) as a dynamic force that can continuously overtake depletion and pollution. It threatens the business-as-usual approach to economic growth so that the humanity is challenged in light of growing population and declining resources to find innovative ways to reduce resource use and live within the limits of the critical planetary boundaries. This indicates the consideration of efficiency in the economic models. Science and technology has been most critical driver of efficiency and will continue to be critical in the future (Kosoy et al., 2012).
- Industrial Development may have to operate under strong EP instruments of Command and control.

Table 5. Industrial structure of selected African countries, 2009

Low Technology manufacturing country (LT share of MVA)	LT industry 1	LT industry 2	LT industry 3
Mali (61%)	Apparel (47%)	Furniture and n.e.c. (9%)	Fabricated metal (5%)
Lesotho (55%)	Apparel (18%)	Leather (11%)	Printing (4%)
Nigeria (53%)	Furniture and n.e.c. (16%)	Fabricated metal (14%)	Textiles (10%)
Mauritius (48%)	Apparel (27%)	Textiles (8%)	Fabricated metal (7%)
Malawi (48%)	Fabricated metal (20%)	Printing (16%)	Textiles (8%)
Angola (41%)	Textiles (25%)	Fabricated Metal (6%)	Printing (6%)
Medium and high technology manufacturing country (MHT share of MVA)	MHT industry 1	MHT industry 2	MHT industry 3
Egypt (48%)	Chemicals (36%)	Machinery (5%)	Electrical machinery (4%)
South Africa (31%)	Chemicals (13%)	Motor vehicles (7%)	Machinery (6%)
Morocco (25%)	Chemicals (16%)	Machinery (3%)	Electrical machinery (2%)
Tunisia (22%)	Electrical machinery (9%)	Chemicals (7%)	Radio, TV, com. equipment (2%)
Tanzania, Untied Rep. of (26%)	Chemicals (25%)	Radio, TV, com. equipment (0.2%)	Electrical machinery (0.2%)
Nigeria (21%)	Motor vehicles (16%)	Chemicals (2%)	Electrical machinery (2%)
Resource-based manufacturing country (RB share of MVA)	RB industry 1	RB industry 2	RB industry 3
Ghana (86%)	Food (44%)	Refined petroleum (13%)	Wood (13%)
Sudan (84%)	Food (61%)	Refined petroleum (15%)	Rubber & plastics (2%)
Libyan Arab Jamahiriya (81%)	Refined petroleum (25%)	Tobacco (22%)	Food (19%)
Madagascar (79%)	Food (55%)	Refined petroleum (11%)	Tobacco (6%)
Gabon (76%)	Food (44%)	Refined petroleum (17%)	Wood (10%)
Kenya (68%)	Food (28%)	Glass & non-metallic minerals (16%)	Refined petroleum (15%)

Source: UNCTAD/UNIDO.

THE ENTERPRISE MAP PROJECT: Industrial Structures

- John Sutton's (London School of Economics and Political Science) Enterprise Map Project aims at providing a detailed profile of industries and of leading industrial companies in each of several countries in sub-Saharan Africa. The first four volumes on Ethiopia, Ghana, Tanzania and Zambia are now available:
- Integrated Economic, Social and Environmental Mapping. The problem at the moment is that micro data tends to be collected from Companies, Households and on the Environment separately, or not at all! Such data can be made interoperable with geo coding (see Aid Data project funded by US AID). There is no reason not to have company surveys include social and environmental disseminations and vice versa. The Central Statistics office will tell you that it's not an issue for them but they play to the needs of independent departments of social welfare, environment and economic planning! To me the data revolution is not really about technology and the building of bottom up meta data but more about the need for a reform of government structures, people and agencies to enable and facilitate such!