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13 July 2006

UNITED NATIONS
DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS
STATISTICS DIVISION

Seminar
Creation, Recognition and Valuation
of
Intellectual Assets

New York, 13 – 14 July 2006
United Nations, Conference room 6

Creating values from intellectual assets

Yoshiaki Tojo,
OECD

Creating Value from Intellectual Assets

13 July, 2006

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OECD Ministers noted the growing importance of intellectual assets and welcomed proposed follow-up study in this area.

Short report on Intellectual Assets and Value Creation was submitted to the Ministerial Council Meeting in May 2006.
(The full report shall be finalised in fall 2006.)

"***Minister noted the growing importance of intellectual assets … and welcomed … the follow-up study on … intellectual assets as a driving force for innovation and value creation.***"

The OECD is now preparing for the follow-up studies.

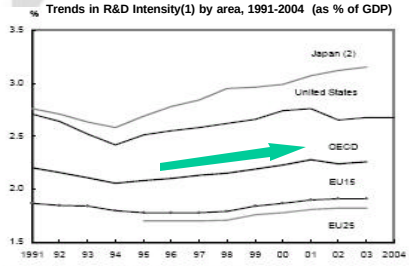
Major Findings of the IA-VC Project

1. Intellectual Assets play substantial and growing role in economic growth. IAs works in combination.
2. Good management is indispensable for earning economic returns from IAs. Incentive mechanism matters.
3. Financial market and corporate governance depends on disclosure, internal control and risk management of IAs.

➡ IAs are effective tools for policy makers as well as managers in knowledge-based and globalised economy.

Investment in R&D has been increasing, reflecting improved economic environment and growth of knowledge intensive industries…

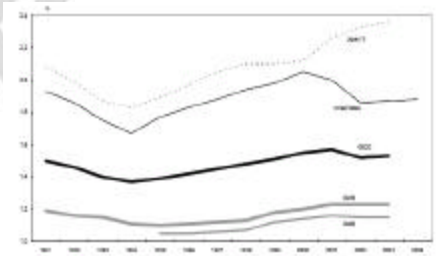
Trends in R&D Intensity(1) by area, 1991-2004 (as % of GDP)



1. Gross domestic expenditure on R&D as a percentage of GDP.
2. Data are adjusted up to 1995.

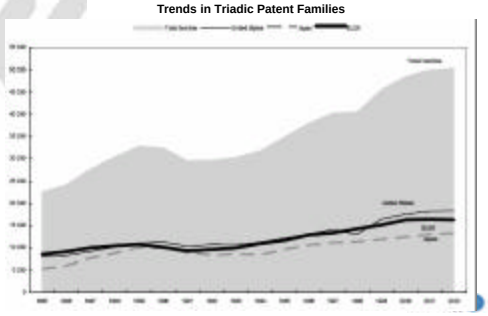
… so does business performed R&D (BERD).

Trends in BERD Intensity by area, 1991- 2004 (as % of GDP)



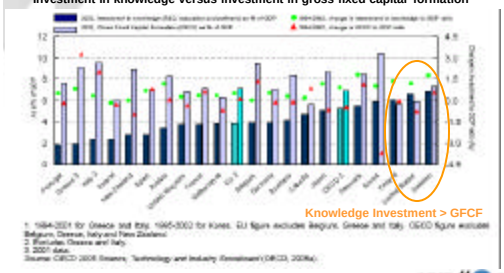
Changes in business R&D expenditure are mirrored by changes in patenting.

Trends in Triadic Patent Families



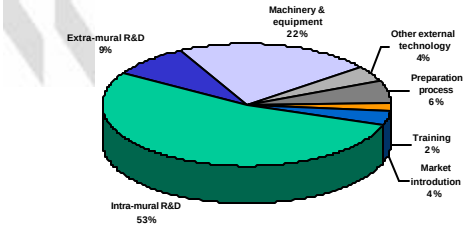
Investment in knowledge is catching up for that in tangible capital.

Investment in knowledge versus investment in gross fixed capital formation



… so do non-R&D investments in other intellectual assets.

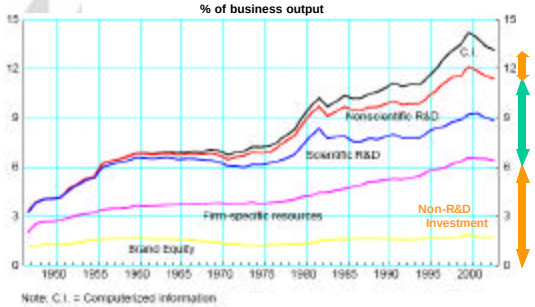
Share of innovative firms engaged in different innovation activi ties, 2000 (%)



Note: Figures are merely indicative (simple average of available country shares) and should be considered assuch.

Source : Figure 4.13 in"Promoting Innovation in Services", Chapter 4, in*OECD Science, Technology and Industry Outlook 2004*, based onEurostat CIS3 survey 2004 (OECD, 2004b).

Investment in Intellectual Assets in the United States,
% of business output

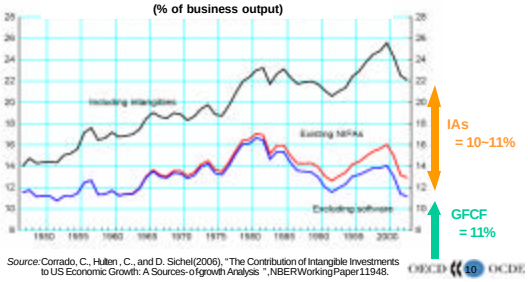


Note: C.I. = Computerized information

*Source:*Corrado, C., Hulten , C., and D. Sichel(2006), "The Contribution of Intangible Investments to US Economic Growth: A Sources-of-growth Analysis ",NBERWorking Paper11948.

In some countries intangible assets match fixed capital stock …

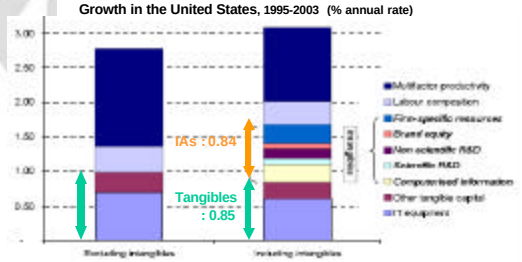
Intangible Capital Accumulation in the United States
(% of business output)



Source: Corrado, C., Hulten, C., and D. Sichel (2006), "The Contribution of Intangible Investments to US Economic Growth: A Sources-of-growth Analysis ", NBER Working Paper 11948.

… in their contribution to labour productivity growth.

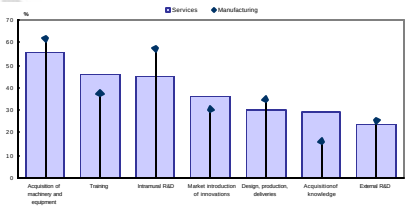
Contribution of Intellectual Assets to Labour Productivity Growth in the United States, 1995-2003 (% annual rate)



Source: Corrado, C., Hulten, C., and D. Sichel (2006), "The Contribution of Intangible Investments to US Economic Growth: A Sources-of-growth Analysis ", NBER Working Paper 11948.

Role of non-R&D investments is larger in service industry.

Share of innovative firms engaged in different innovation activi ties, 2000 (%)



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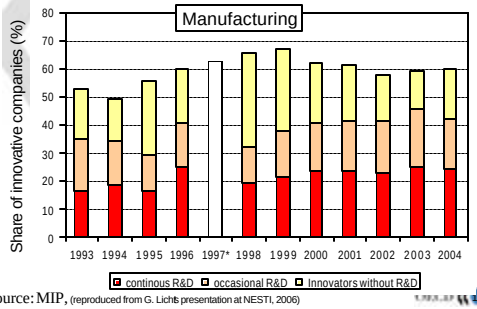
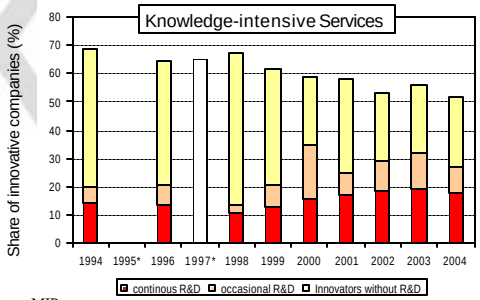
Innovation and R&D 1993-2004



Source: MIP, (reproduced from G. Licht's presentation at NESTI, 2006)

Innovation and R&D 1994-2004



Source: MIP, (reproduced from G. Licht 's presentation at NESTI, 2006)

The Frascati Manual: a long history

- 1963 - The quantum leap
- 1970 - Streamlining with international classifications (SNA, ISIC)
- 1976 - Inclusion of SSH; "objectives" classification
- 1981 - Higher education supplement
- 1993 - Inclusion of software, environment
- 2002 - Standard questionnaire, human resources for science and technology, services

The definition of R&D

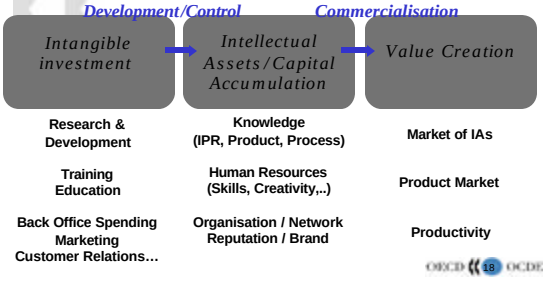
- Research and experimental development (R&D) comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new appications .

- Basic research
- Applied research
- Experimental development

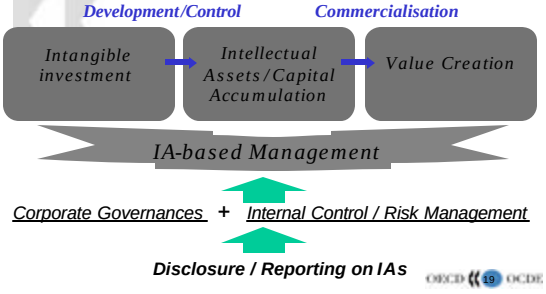
The measurement of innovation

- The coverage of the Frascati Manual
- The Frascati Manual:
  a mature measure of innovation activities ?
- The quantum leap with the Oslo Mannual

Intellectual Assets should be developed, retained, and commercialised for value creation by firms.



The ability to create economic value from IAs is contingent on the firm's management capabilities.



Additional public disclosure on intellectual assets would enhance financial market efficiency.

Studies provide evidence that valuation in financial markets are influenced by disclosure on intellectual assets.

- A unit increase in R&D leads comparable increase in market valuation, greater than that for tangible investment.
- Stock price increase with FDA's approvals was doubled to 1% with qualitative info, and quadrupled with quantitative info.
- Companies with better general reporting in line with PWC's benchmark enjoyed a lower cost of capital.
- The link between corporate transparency and stock price volatility is stronger for smaller companies .

Growing number of initiatives address to disclosure of intellectual assets.

Selected Frameworks and Guidelines of reporting on IAs

Institution/Country	Scope	Year	Reference
Narrative/non-financial reporting			
European Union	All companies	2003	Modernisation Directive 68th and 7th Directives
	Listed companies	2004	Transparency Directive
Australia	Listed companies	2003	ASX Listing Rule, Australian Stock Exchange
Canada	Listed companies	2003	Continuous Disclosure Obligations, Sec. Admin.
Germany	All companies	2004	GAS 15 Management Reporting, DRSC
United Kingdom	Quoted companies	2005	Operating and Financial Review, DTI
United States	Listed companies	2003	Management Discussion and Analysis, SEC
Specific reporting about intellectual assets			
European Union	All companies	2002	Guidelines on Intangibles, MERITUM Project
Australia	All companies	2003	Guiding Principles on Extended Performance Management
Austria	Public universities	2002	Austrian Universities Act
Denmark	All companies	2003	Intellectual Capital Statements, MSTI
Germany	SME	2004	Intellectual Capital Statement, BMWA
Japan	All companies	2005	Guidelines for Disclosure of IA-based Management, METI

Source: OECD

Taxonomy of Intellectual Assets is not yet harmonised…

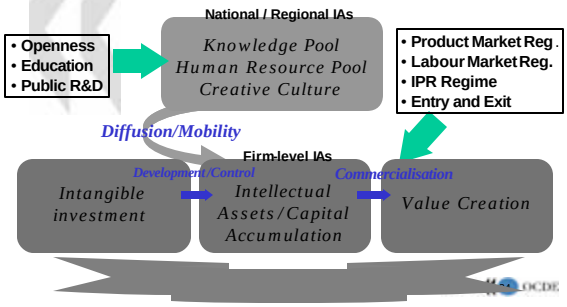
- Evolving scope
  - R&D, patents, trademarks
  - Human resources and capabilities, organisational competencies and « relational » capital
  - Dynamic business attributes: knowledge-creating capability, right of access to technology, ability to use information
- Confusion between the assets and their value drivers
- IA are included in SRI issues
- Taxonomies provided not used by investors although investors take them into account in their research
- Necessity to provide taxonomies value-relevant for investors and managers

Corporate reporting is in also developing stage.

Corporate reporting on an unsystematic basis & with great discrepancies between organization, industries and countries

- Absence of an institutional and conceptual framework
- Two types of guidelines with different scope, target companies, users and purposes
  - Narrative reporting : listed companies, mandatory, shareholder-oriented, reporting tool
  - Specific reporting on IA: all organizations, voluntary, not only shareholder-oriented, management tool
- Proposed frameworks do not meet investors' expectations as they lack industry-specific indicators

Ability to create economic returns from intellectual assets also depends upon economy-wide business environments (→ IAs for Nation / Region / Cities).



Policy Implications from Major Findings

- Intellectual Assets play substantial and growing role in economic growth. They works in combination.
  - → *Treat IAs as benchmarks of performance, not as targets of direct policy manipulation*.
- Good management is indispensable for earning economic returns from IAs. Incentive mechanism matters.
  - → *Nurture business environment for IA-based management*
  - *(Human Resource, IPR regime, Disclosure & Corporate Governance…)*
- Comparable data and micro-data analyses are necessary to gauge impact of IAs. So is the theoretical framework.
  - → *Co-ordinate data gathering on IAs*.
  - *Harmonised analyses on micro-data of NSOs*.

There is mounting theoretical and empirical evidence on determinants of economic growth.

Growth Accounting:

Y = F (L, K, TFP_1) / F (L, K, *intermediate*, TFP_1)

TFP_1 as residual is to be explained by R&D, skill, etc.

Extended Growth Accounting (e.g. Intellectual Assets):

Y = F (L, K_T, K_I (R&D, skills, organisation, reputation…), TFP_2)

TFP_2 < TFP_1

Knowledge Production Function (e.g. Innovation Accounting):

Y= F_1 (L, K, TFP_1)

TFP_1 = F(*Knowledge*) Knowledge ~ innovation, patent, …

Knowledge proxy = F_2 (R&D, …)

Further OECD works are in preparation on intellectual assets and value creation, such as…

1. Business environment and corporate governance mechanism to improve IA-based management
   - → Industry-Specific Template for IA intensive firms
   - → IA-management Tools for Small-Cap Listed Companies
2. IAs for nation, region, economic clusters
   - → Internatinal / Domestic spill-overs (positive & negative)
3. Intellectual property rights and other institutional design to balance diffusion of knowledge and control of IAs

Possible Follow-up Study Modules includes,

- Promoting IA-based Management <Firm level>
  - Quantitative Analysis on Intellectual Assets, Innovation and Value Creation at Corporate level
  - Commercialisation of Patents
  - Corporate Governance for IA-intensive Firms
  - IA-based Management in SMEs
  - Review of IA-based Management Promotion Policies
- IAs and Economic Growth <Macro economy level>
  - Estimation of Intellectual Assets and Productivity / Growth Accounting Analysis

Thank you

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