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Taxation of Intangibles:

Implications for Growth, Jobs and Competitiveness



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What is Intangible Capital (IC)?



- ▶ What is **capital**? An outlay of capital now designed to produce increase output (quantity or quality) in the future (at least a year in the future)
- ▶ What is **intangible**? Something that is not atom-based.

Trends in Intangible Capital (\$billions)



	1980s	2000-2003	Growth Rate	Share of Growth
Software	23	172	748%	17%
Scientific R&D	104	230	221%	14%
Non-Scientific R&D	58	237	409%	20%
Brand Equity	54	161	298%	12%
Firm-Specific Resources	109	425	390%	36%
Tangible Investment	421	893	212%	

► (source: Corrado, Hulten and Sichel, 2009)

Why is IC Growing Absolutely and Relative to Tangible Capital?



- ▶ “Digitization” of the Economy (more software and databases)
- ▶ “Branding” of the Economy (more money spent on advertising)
- ▶ “Financialization” of the Economy (at least until 2008, increases in financial “innovation”)
- ▶ New division of labor with US specializing more on innovation
- ▶ Rise of executive compensation (a share gets counted as firm specific IC)
- ▶ Decline in manufacturing competitiveness with reduced growth in tangible capital investments

Intangible Capital: Why It Might be Bigger Than We Think



- ▶ Human capital (its more than just training investments; on the job learning creates IC)
- ▶ Software (currently counted, but ignores the significant labor investment need to make it work for a specific firm)
- ▶ Organizational capital (likely undercounts process R&D and engineering redesign).
- ▶ Network Capital (relationships, supply chains, regional clusters – all are IC and are not included)
- ▶ Political Capital (building relationships with government for future policy changes: not included)

Intangible Capital: : Why It Might be Small Than We Think



- ▶ **Some software is entertainment and therefore is simply capitalized consumption**
- ▶ **Some IC goes to zero when the firm dies (e.g. brand) or a worker leaves.**
- ▶ **Some growth in firm specific capital is a reflection of growth in higher growth in management salaries.**

Recent U.S. Trends May Not Be as Positive



- ▶ **Worker training expenditures have declined.**
- ▶ **U.S. R&D has grown more slowly than other nations.**

(Source: Atkinson and Ezell, Innovation Economics; The Race for Global Advantage)

Assumptions in IC Studies



- ▶ All investments have same return for the firm.
(but Hitt shows the IT workers provide 3 times more value than other workers).
- ▶ Externalities are zero.
- ▶ Public investments are ignored.

Intangibles and Firm Value and Economy-Wide Value



- ▶ **Does IC drive productivity, innovation or U.S. competitiveness (e.g., software, R&D)?**
- ▶ **Or does it just drive firm value (e.g., branding of firms serving the domestic market; firm-specific skills)?**

Not All Intangibles Have Same Impact on Firm Performance



- ▶ **R&D vs. Branding (R&D has bigger impact on firm performance than advertising)**

Not All Intangibles Drive Economic Growth



- ▶ **Branding (some only affects domestic market share)**
- ▶ **Architectural Design (nice buildings, but no effect on growth)**

Growth of IC Does Not Mean Tangible Capital is Not Important



- ▶ “Since the stock of tangible matter is fixed the only source of productivity is intangible process”.
- ▶ This is simply wrong unless wants to define tangible capital as only the sum of the raw materials embedded in them. Most tangible capital has large amounts of embedded intangible capital. Its through the adoption of machines/software that much innovation spreads.

Implications for Policy



	Firm Benefit	Spillovers Beyond the Firm	Role of Public Investment	Economy-Wide Benefit From Firm Investment
Physical (machines)	Strong	Moderate	Low	Moderate
Physical (IT)	Strong	High	Low	High
Physical (buildings)	Weak	Low	Moderate	Low
Technical Innovation	Strong	High	High	High
Non-Technical Innovation	Moderate	Low	Low	Low
Skills	Moderate	High	High	Moderate-High
Organizational-Branding	Moderate	Low	Low	Depends
Political	Moderate	Depends	High	Depends

Implications for Policy



- ▶ Capitalizing all intangibles for tax purposes would lower after-tax returns, leading to less investment.
- ▶ For case of intangibles with no spillovers this could lead to more “allocation efficiency” in the tax code, but for intangibles with spillovers it would reduce innovation and productivity.

Conclusion: Not all Capital is Created Equal



- ▶ A focus on intangibles (or tangibles) confuses the real issue.
- ▶ From an economic policy perspective, the focus should not be on intangible capital vs. tangible capital. It should be on “smart” capital that generates societal externalities and growth vs. other expenditures that from a societal perspective are capitalized consumption.
 - Smart, productive capital: e.g., machines, software, scientific R&D, training.
 - “Regular” capital: e.g., advertising, buildings and furniture, architectural design, most financial R&D.

Thank You



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