



Where have all of Enron's intangibles gone?

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On December 31, 2000, Enron's market value was \$75.2 billion, while its book value (balance sheet equity) was \$11.5 billion. The market-to-book gap of almost \$64 billion, while not equal to the value of intangibles (it reflects, among other things, differences between current and historical-cost values of physical assets), appears to indicate that Enron had substantial intangibles just half a year before it started its quick slide to extinction. This naturally raises the questions: Where are Enron's intangibles now? And even more troubling: Why did not those intangibles—a hallmark of modern corporations—prevent the firm's implosion? If intangibles are "so good", as many believe, why is Enron's situation "so bad"?

Federal Reserve Board chairman Alan Greenspan in his recent Semiannual Monetary Policy Report to the Congress (February 27, 2002) chipped in with an answer:

... the ever-increasing proportion of our GDP that represents conceptual as distinct from physical value added may actually have lessened cyclical volatility. In particular, the fact that concepts cannot be held as inventories means a greater share of GDP is not subject to a type of dynamics that amplifies cyclical swings. But an economy in which concepts (intangibles) form an important share of valuation has its own vulnerabilities.

As the recent events surrounding Enron have highlighted, a firm is inherently fragile if its value added emanates more from conceptual

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as distinct from physical assets. A physical asset, whether an office building or an automotive assembly plant, has the capability of producing goods even if the reputation of the managers of such facilities falls under a cloud. The rapidity of Enron's decline is an effective illustration of the vulnerability of a firm whose market value largely rests on capitalized reputation. The physical assets of such a firm comprise a small proportion of its asset base. Trust and reputation can vanish overnight. A factory cannot.

The implications of such a loss of confidence for the macroeconomy depend importantly on how freely the conceptual capital of the fading firm can be replaced by a competitor or a new entrant into the industry. Even if entry is relatively free, macroeconomic risks can emerge if problems at one particular firm tend to make investors and counterparties uncertain about other firms that they see as potentially similarly situated. The difficulty of valuing firms that deal primarily with concepts and the growing size and importance of these firms may make our economy more susceptible to this type of contagion.

Chairman Greenspan raises noteworthy points; I agree with most and take exception to one. Indeed, intangible (conceptual in Greenspan's terminology) assets are in modern economies the major drivers of value and growth. Physical assets (plant, property, equipment, inventory) are by and large commodities to which competitors have equal access. Consequently, such assets yield, at best, the cost of capital (zero value added, or residual earnings). Pfizer's value comes from its discovery activities (drug development, patents, trademarks), and from an unusually effective sale force (human capital, training), and not from its lab equipment or pill production facilities, Wal-Mart's incredible competitiveness derives from unique organizational processes, such as those shifting inventory management to suppliers, rather than from brick and mortar.¹ These attributes of intangibles—value creation by scalability, and often increasing returns to scale—are by now widely recognized.

Chairman Greenspan highlights a profound macroeconomic attribute of intangibles—"the fact that concepts cannot be held as inventories means a greater share of GDP is not subject to a type of dynamics that amplifies cyclical swings". Intangible-intensive enterprises are thus a major reason, according to the Chairman, for the quick recovery of the US economy. I fully concur.

¹ When the barcode is read in a Wal-Mart cash register, the information goes directly to the supplier, which is in charge of inventory management and on-time delivery.

But what about Chairman Greenspan's warning concerning Enron's intangibles: "As recent events surrounding Enron have highlighted, a firm is inherently fragile if its value added emanates more from conceptual as distinct from physical assets"? Thus, the Chairman seems to believe that Enron was endowed with substantial intangibles, a view obviously shared by capital market, given the \$64 billion market-to-book gap as recent as end of 2000, and that those intangibles vanished because their value was predicated on management's reputation. This obviously requires an examination of Enron's specific intangibles. I did that, and was highly surprised: Despite the aura of a "new economy," knowledge-intensive enterprise which surrounded Enron during the 1990s, I could not find any significant investments in intangibles.

I searched Enron's financial reports for fiscals 1998–2000 for R&D expenditures, both internal and acquired (in-process R&D).² R&D is, of course, a major driver of intangible assets, such as new products, services, and improved production processes ("process R&D"). Hard to believe, but Enron did not report any R&D expenses during 1998–2000. A search for Enron's patents reveals only 20 relatively old patents, mostly on physical processes (electricity generation and gas transmission). In contrast, for example, IBM was granted more than 3,500 patents during 2000.

It is not only R&D that encountered Enron's stinginess. The company did not report any other major investments in intangibles, as well. No information on employee training, or on customer acquisition costs. No acquisition of technology or brands either. The only intangible investment reported by the company is software, mainly for trading activities—a total of \$810 million during the three years 1998–2000. A paltry investment compared with \$172 billion of reported revenues, or with capital expenditures for physical assets during the 1998–2000 period of \$7,850 million. Intangibles assets do not come from thin air; they require large and sustained investment, which Enron's management obviously decided not to make. (As an aside, I am not aware that financial analysts raised the issue of absence of intangible investments during conference calls or in their glowing reports about Enron.)

The best evidence that Enron lacked substantial intangibles is that its demise made hardly a ripple in the energy trading market, and had practically no effect on electricity prices. Intangibles, by definition, are unique factors of production that cannot be quickly imitated by competitors. The fact that Enron's competitors quickly stepped in to fill the gap is inconsistent with the existence of intangibles conferring on their owners sustained competitive advantages.

So the answer to the question posed at the opening of this note—where have Enron's intangible gone?—is a simple one: Nowhere. Enron did not have

² I am grateful for the assistance of Shyam Vallabhajoshiyula, a Ph.D. candidate at Stern School of Business, New York University, in analyzing Enron's financial reports.

substantial intangibles, that is, if hype, glib, and earnings manipulation do not count as intangibles. Which, of course, also answers the second question—why did not the intangibles prevent Enron’s implosion.

Back to Greenspan’s comment about the fragility of intangibles: “A physical asset, whether an office building or an automotive assembly plant, has the capability of producing goods even if the reputation of the managers of such facilities falls under a cloud. The rapidity of Enron’s decline is an effective illustration of the vulnerability of a firm whose market value largely rests on capitalized reputation”. Intangibles are indeed fragile, more on this later, but “true” intangibles are not totally dependent on managers’ reputation. IBM’s management during the 1980s and early 1990s drove the company close to bankruptcy, and was completely discredited (though not ethically, as Enron’s). But IBM’s intangibles—innovation capabilities and outstanding services personnel—were not seriously harmed. Indeed, under Lou Gerster’s management (commencing in 1993), IBM made an astounding comeback. Hypothetically, would a tarnished reputation of Microsoft, Pfizer, or DuPont’s management destroy the ability of these and similarly innovative companies to continuously introduce new products and services and maintain dominant competitive positions? Of course not. Even when companies collapse, valuable patents, brands, R&D laboratories, trained employees, and unique information systems will find eager buyers. Once more, Enron imploded, and its trading activities “acquired” for change not because its intangibles were tied to management’s reputation, but partly, because it did not have any valuable intangibles—unique factors of production—that could be used by successor managers to resuscitate the company and create value.

Finally, to the fragility of intangibles. As I elaborate elsewhere,³ along with the ability of intangible assets to create value and growth, comes vulnerability, which emanates from the unique attributes of these factors of production:

Partial excludability (spillover): The inability of owners of intangible assets to completely appropriate (prevent non-owners from enjoying) the benefits of the assets. Patents can be “invented around”, and ultimately expire; trained employees often move to competitors, and unique organizational structures (e.g., just-in-time production) are imitated by competitors.

Inherently high risk: Certain intangible investments (e.g., basic research, franchise building for new products) are riskier than most physical and financial assets. The majority of drugs under

³ Lev, 2001. Intangibles: Management, Measurement, and Reporting (Brookings Institution Press, Chapters 1–2).

development do not make it to the market, and most of the billions of dollars spent by the dotcoms in the late 1990s to build franchise (customer base) were essentially lost.

Nonmarketability: Market in intangibles are in infancy, and lack transparency (there are lots of patent licensing deals, for example, but no details released to the public). Consequently, the valuation of intangible-intensive enterprises is very difficult (no “comparables”), and their management challenging.

Intangibles are indeed different than tangible assets, and in some sense more vulnerable, due to their unique attributes. Their unusual ability to create value and growth comes at a cost, at both the corporate and macroeconomy level, as stated by Chairman Greenspan: “The difficulty of valuing firms that deal primarily with concepts and the growing size and importance of these firms may make our economy more susceptible to this type of contagion”. Indeed, intangible-intensive firms are “growing in size and importance”, a fact that makes the study of the measurement, management, and reporting of intangible assets so relevant and exciting, irrespective of Enron the intangibles-challenged sorry affair.

Reference

Lev, B., 2001. *Management Measurement and Reporting*. Brookings Institution Press, Washington D.C.