

Valuation of Public Equities, Including Alphabet, Amazon, Apple

Capital Market Pricing of Opaque Intangible Assets

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Summary

“equity investors look beyond traditional financial reporting to see the cash ROI in technology-based intangible assets.”

Investors have driven the valuations of these 3 tech giants (and a select few others) well past their peers, not to mention into a different league from leaders in most other sectors. Elite private companies are achieving similarly high multiples, given their access to a large supply of capital competing for few high yield options.

Why and how do investors assign a premium on innovation-related growth potential?

The answer requires dissecting the promise of growing cash returns on invested capital. In summary, these equity investors look beyond traditional financial reporting to see the cash ROI in technology-based intangible assets.

Background

Stories about daily market volatility dominate the popular press, but nuanced discussion of the underlying drivers of stock price is typically only available for a fee. And even behind paywalls and private access analyst reports, in-depth analysis of intangible asset contribution to stock price is sparse.

Fundamentally, each stock price represents a per-share ration of the net present value of expected cash generation by the business. In other words, the share price is an actively traded expectation of discounted future payoffs. The product of share price and number of outstanding shares is total market capitalization. Most businesses operate leveraging a combination of tangible assets, e.g. working capital and equipment, plus intangible assets, e.g. relationships, brand, and technology. Traditional financial statement reporting and analysis focuses on GAAP income statements and tangible assets, yet market values continue to diverge

from tangible book values, even after accounting for drawbacks of [market-to-book data](#). This difference between market price and tangible book value represents investors' expectations for the present value of all intangible assets: technology & patents, know-how, brand strength, and other off-balance sheet barriers and competitive advantages.

How do investors value Apple's unprecedented cash flow versus Alphabet and Amazon?

Consider a few summary metrics in the table below:

	Apple	Alphabet	Amazon
Free cash flow (1)	\$70B	\$16B	\$7B
Market capitalization (2)	\$540B	\$495B	\$347B
Book value (3)	\$130B	\$124B	\$15B
Intangible assets as recorded (3)	\$9B	\$20B	\$4B
Tangible book value (3)	\$121B	\$104B	\$11B
Market-to-book ratio	4.1	4.0	23.5

In their 2015 fiscal years, Apple (AAPL) generated **\$70B** in free cash flow, calculated here as the cash flow from operations (\$81B) less capital expenditures (\$11B). In comparison, Alphabet (GOOG) generated \$16B in free cash flow and Amazon (AMZN) \$7B. Apple's tremendous brand equity maximizes revenue via premium pricing and market share, while its supply chain management and operating efficiency minimize costs. The result is a cash gusher with semi-predictable cycles around iPhone and other product releases.

As outlined in the background section, intrinsic value is the discounted, expected free cash flows, which is equivalent to the market cap plus debt less cash on the balance sheet. The "discounted" and "expected" variables relate to the industry and risks, quality of earnings, and competitive advantages.

In valuing the equity of a traditional business, from manufacturing to retail, the analysis can largely rely on financial reports, disclosures, and industry research. The discounted cash flows derive from 1) harvesting margins of legacy products and 2) introducing extensions with similar cost structure and business model.

In valuing the equity of knowledge intensive businesses, financial statements are insufficient if not misleading. Accounting rules view intangibles conservatively. Investments in digital capabilities,

such as analytics of customer behavior, are typically treated as expenses on the income statement and don't appear on the balance sheet outside of business combinations. However, these mostly "hidden" assets provide the foundation for growth for many firms.

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From the table, a relatively small amount of identifiable intangible assets, including goodwill, are recorded on the balance sheets. Basic financial statement analysis would equate these understated assets with an understated book value of

equity. Besides skewing the market-to-book ratio, the understated equity also implies a higher debt capacity to lower cost of capital, which would also boost an investor's NPV calculation of cash flows.

More importantly, the understated and expensed resources and capabilities can also provide competitive advantage, i.e. the potential for higher margins due to lower cost structure in more scaleable businesses.

What visibility do investors have into intangibles?

The holding company Alphabet was formed in part to provide investors with more transparency on Google's non-search businesses, such as Google X bets and spin-offs. Alphabet's strategy of internal R&D and acquisitions may be laying the foundation for the economy's next hardware/software titan. For example, patent value and technical know-how was central in Google's [acquisition of Motorola](#). But investors know well that Google's winning formula over rivals like [Yahoo](#) has been rooted in continual investment and technology improvement of its core search business. The search business supplies the majority of Alphabet's \$75B FY2015 top line via ad revenue, and advancements continue with AI and machine learning.

Clearly, **a large gap exists between the carrying value of technology and its commercial utility.** Accounting rules and disclosures simply don't

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accommodate that reconciliation. Of Alphabet's **\$20B** in recorded intangibles, \$15B is goodwill and \$4B is patents and developed technology. Corporations acknowledge that accounting for the identifiable intangible assets like patents is complex, from

Alphabet's 10-K, "Critical estimates in valuing certain intangible assets include but are not limited to future expected cash flows from customer relationships and acquired patents and developed technology; and discount rates. We allocate the fair value of purchase consideration to the tangible assets acquired, liabilities assumed and intangible assets acquired based on their

estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identifiable assets and liabilities is recorded as goodwill. When determining the fair values of assets acquired and liabilities assumed, management makes significant estimates and assumptions, especially with respect to intangible assets.”

Related to the mix of intangible and capital assets, shareholders and their executive agents have increased their focus on the reduction of fixed assets in many industries. The highest grossing American (and global) company, Walmart (WMT), had \$482B of sales in 2015, more than 4 times Amazon. However, Walmart has only 2/3 of the market cap, at \$230B or about 3 times its book value, due in part to high tangible asset intensity relative to Amazon. By comparison, Amazon has a relatively small and efficient balance sheet, with only **\$11B** of tangible book value. Further, Amazon has moved beyond its reseller origin, and now sells its own high-end products plus scale-able businesses like cloud services and streaming.

The combination of forecasted growth and return on invested capital promises more free cash flow in the future, yielding higher valuations today. Other macroeconomic factors are influencing valuation, namely the slowing of global GDP growth and fewer attractive investment alternatives. Innovative companies that can grow faster than the economy are bid up by investors, bestowing an innovation premium on those equities.

The above intangible investment rationale and math extend to small-mid capitalization stocks, not to mention private firms. For example, financial technology or FinTech firms are garnering high valuations as they try to leverage technology-based intangible assets to disrupt incumbent business models and capture a portion of the large profits in payments and banking.

NFLX



Source: <http://www.msn.com/en-us/money/stockdetails/fi-126.1.NFLX.NAS?symbol=NFLX&form=PRFIEQ>

On the downside, as high growth expectations create outsized multiples, they also lead to delicate share prices, especially without positive cash generation as a buffer. Netflix shares are down about a quarter from December 2015, in the figure, due largely to slower than expected subscriber additions and international expansion. In other words, investors are adjusting their models as to how quickly and broadly its technology platform can scale. Perhaps

Netflix's largest advantage is its customer-related intangible resources and capabilities, like its ability to access and triage more than a decade of proprietary viewing data. However, with competitors gaining experience in video consumption behavior, investors will examine the durability of Netflix's technology advantage versus nascent streaming services from Amazon, Alphabet, and traditional media firms.

Takeaways for diligence on knowledge intensive businesses

- Go beyond traditional financial statement analysis. Projecting cash flows and calculating intrinsic value also requires a deep dive into technology-based resources and capabilities.
- Uncover and then test competitive advantages that are largely off-balance sheet. These intangibles include digital know-how, patent position, brand equity with customers, and so on.
- Consider how the economics of a technology-intensive business differs from a fixed asset heavy incumbent, particularly in its ability to deliver profitable new growth.
- Avoid pricing shares for perfection, as models will have extreme sensitivity to growth rates.
- Inform investment theses for acquisition targets or position in lower profile equities by understanding intangibles and the associated market premium.

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Source:

- 1) respective 10-K for 2015 FY
- 2) yahoo and google finance on 7/15/16
- 3) respective 10-Q for 3/26 to 3/31/16

About ipCapital Group

ipCapital Group (ipCG) is an innovation and intellectual property (IP) consulting firm serving clients that range from early stage to Fortune 500 in over 800 engagements since 1998.

Adam works with a diverse range of clients, from venture-backed tech to hedge funds to Fortune 100 industrials, with a focus on building enterprise value by thinking and acting more strategically with innovation initiatives and associated intangible assets.

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