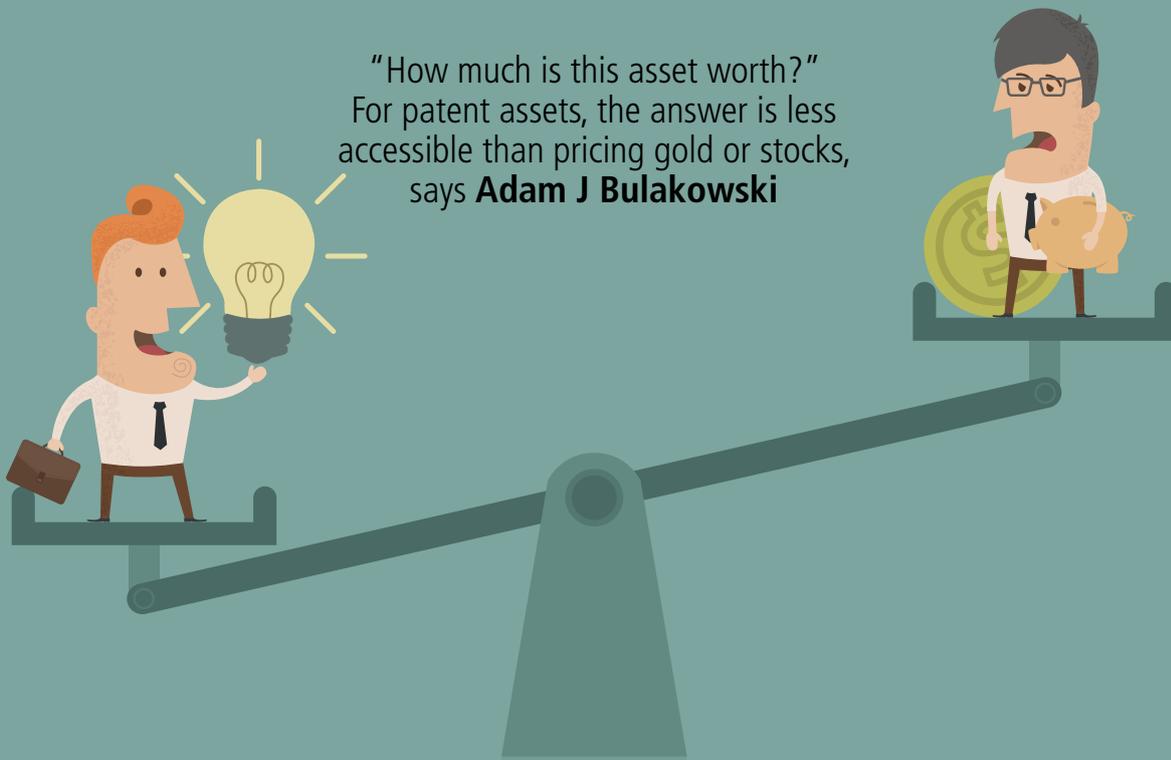


# Decoding patent valuation

“How much is this asset worth?”  
For patent assets, the answer is less  
accessible than pricing gold or stocks,  
says **Adam J Bulakowski**



**As a management consultant, I am regularly asked by executives and investors about the value of patent portfolios. Five years ago, their questions centered on isolated transactions – an M&A or divestment, a bankruptcy auction, an equity offering, a litigation.** Today, in almost every industry, these same professionals are working with lawyers and technologists to leverage patent assets for broader advantage. Through this business perspective, a company realises the intrinsic value of its patent portfolio.

In my experience, the most helpful patent value estimates begin with an experienced perspective on overall context, and then combine traditional approaches to valuing assets with a critical eye on technical, legal, and financial data inputs.

## Asset valuation, in context

Historically, executives and investors have been adroit in managing tangible assets, such as a bond portfolio or a manufacturing plant. They've also optimised the utilisation of other types of intangible assets, such as brand and customer relationships. Now, their experience tells them that changes in enterprise value are increasingly driven by technology-based intangible assets.

Whether the assets are gold bullion, company stocks, or patents, the value is driven by a buyer's willingness to pay, informed by how the buyer perceives the benefit accruing.

- Gold is a non-productive asset; a gold bar does not generate cash or become two gold bars in the future. So a buyer assigns value based on expectations that others will pay more in the future. Of course,

supply and demand factor heavily into this pricing, as buyers weigh mining and recycling versus demand from speculation, central bank holding, and jewelry/manufacturing usage.

- Stocks are productive assets that promise some form of cash flow for owners in dividends and/or capital gain. A buyer prices these assets based on expectation for cash generation over some period of time and adjusted for risk. Supply and demand also play a role. For example, the short supply of Facebook IPO shares coupled with high retail demand created a price spike that, at the time, could hardly be explained by an objective analysis of risk-adjusted cash returns.

Like other assets, the value of patents is based on a buyer's perception of the portfolio's economic benefit. Since patents can create returns in different ways, context is king. In other words, to whom do the patents have value and why? For one buyer, the value of patents may lie primarily in licensing or litigation potential. Another buyer might use that same portfolio primarily for counter-assertion or cross licensing. A third buyer might use the assets for competitive advantage in creating a market entry barrier. A fourth buyer might view the portfolio holistically, from defensive value to facilitating partnerships in its supply chain.

Furthermore, context includes a practical understanding of the external environment. Patent value is impacted by external forces, from country IP laws to evolving court cases to the market's appetite for patents.

- The America Invents Act and subsequent US legislation effectively mandate speedy filing, enable patent quality reviews, and discourage

egregious assertions.

- In the ongoing courtroom saga, Apple will likely collect close to \$1bn in the Samsung infringement case, but Apple could not get an injunction banning Samsung product sales.
- While each patent, by definition, has unique claims, the overall market is still affected by the demand for patents in specific technology areas and the availability of these related assets. Aggregate supply and fragmented demand considerations become even more important as technologies further converge in products/services and patent buyers increase their focus on quality. In terms of liquidity, patents are certainly not stocks, but several new, non-assertion business models aim to reduce the friction in trade.

A thoughtful analysis includes an understanding of how assets create value, defined as benefits less costs. Only then can a company successfully manage these assets.

**“Since patents can create returns in different ways, context is king. In other words, to whom do the patents have value and why?”**

**More realistic patent valuation**

**Analysing patent data:**

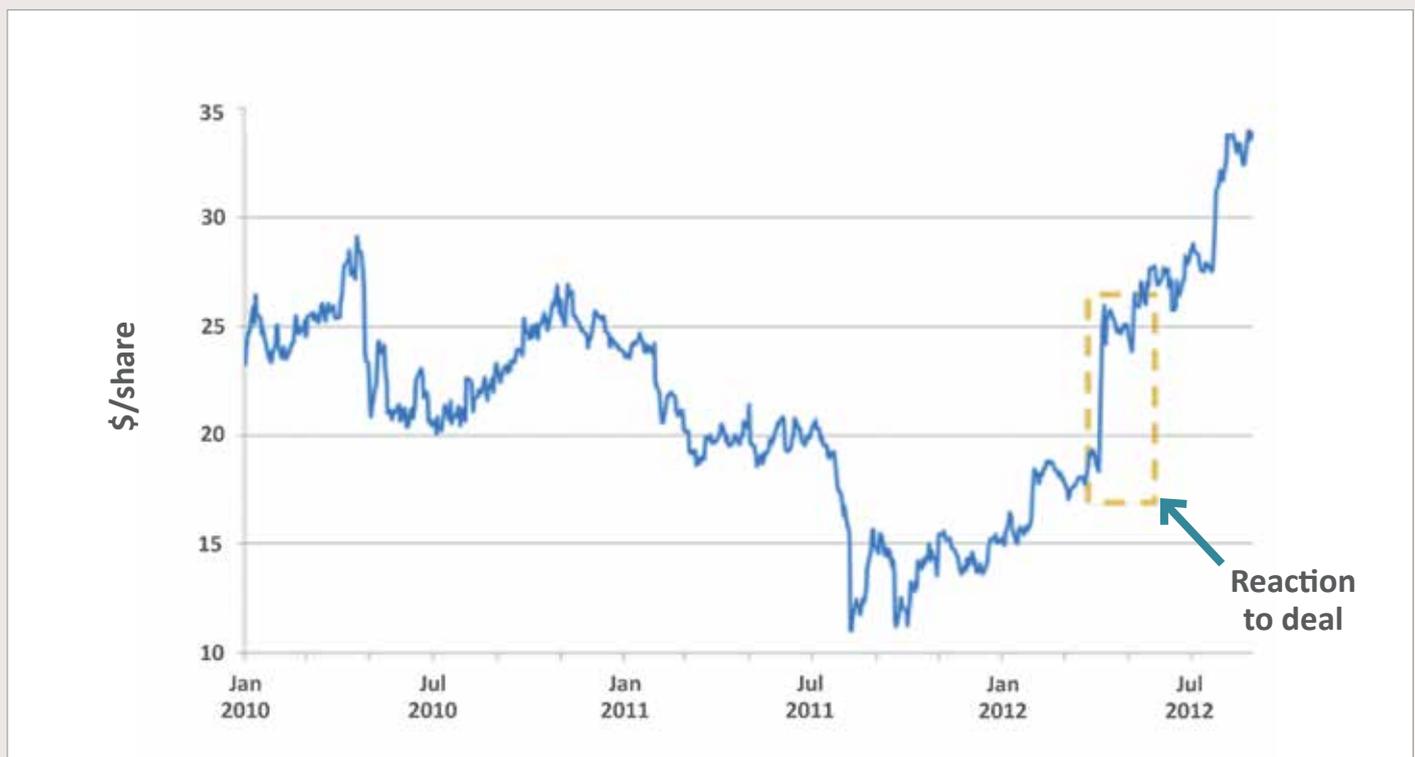
Unfortunately, a patent’s economic fundamentals are not as readily discernable as other assets. Stock analysts can easily access a public company’s audited disclosures to inform a discounted cash flow model. Supplemental information allows the analyst to refine the model by stripping out accounting vagaries and understanding the competitive environment. That analyst can also compare the target to similar companies’ performances and transactions.

Patent data is technically public, but there is wide variation in capability to both find the right data and interpret it accurately. After AOL’s shares hit a low of US\$11 in the second half of 2011, analysts began to speculate on the carve-out value of AOL’s patent portfolio. On its latest balance sheet, AOL reported its book value of “Intangible Assets” as \$132m. The various market estimates, around \$300m, were effectively priced into AOL shares in early 2012. When AOL sold Microsoft some 800 patents for \$1bn in April 2012, AOL’s market capitalisation jumped approximately \$700m in surprise. As shown in Figure 1, the jump was almost exactly the difference between analyst expectations and the transaction. In lending credence to its purchase price, Microsoft immediately recouped \$550m for a subset of these patents in a subsequent deal with Facebook.

Conversely, when Kodak held its patent auction in 2012, various reports estimated a floor value around \$2bn. Since Nortel famously sold its patents for \$4.5bn, versus analyst estimates of around \$1bn, the popular press speculated that Kodak would realise a similar dollar-per-patent multiple. The Kodak auction’s circumstances and ultimate result of \$525m surprised many casual observers, especially since the result also included access to many other Kodak patents not originally on the auction table. But the RPX- and Intellectual Ventures-led consortium of buyers included many sophisticated users of intellectual property.

The traditional income-, market-, and cost-based approaches to asset

Figure 1: How AOL’s share price reacted to the larger-than-expected patent deal



valuation are indeed applicable to patents. The most accurate estimates arise from applying some combination of these methodologies, each informed by a critical interpretation of data on the patents' legal, technical, and business attributes. For example, in the Kodak sale, legal considerations were dominated by portfolio encumbrances and an ITC ruling of invalidity on a key patent within the portfolio. Other salient data analyses focused on technical breadth and applicability and the economic motivations for potential buyers.

**“The most accurate estimates arise from applying some combination of these methodologies, each informed by a critical interpretation of data on the patents’ legal, technical, and business attributes.”**

### Valuing patents via an income approach:

As with stocks, an income-based valuation, such as a discounted cash flow model, is a useful tool. Figure 2 shows a few elements of the common relief-from-royalties approach. Unlike stocks, an analyst cannot simply use audited financial statements as the foundation for projecting the free cash flow from the patent portfolio. And since assumptions and projections form the backbone of these models, the quality of data inputs becomes paramount. Context provides practical direction on apportionment estimates, growth assumptions, royalty rates, and so on.

For example, the cumulative “stacking” of royalty demands on today’s products/services needs to be reconciled with the real economic benefit. Each of the thousands of inventors with claims on some portion of a mobile device can’t reasonably expect to receive \$1 of each unit sold; otherwise these products would cost as much as houses.

As another practical example, the Motorola patents bought by Google have significant option value and provide Google’s management with flexibility. Like a financial call derivative, the patents present the option, but not the obligation, to pursue certain paths such as investing in a hardware product. In such cases, a Black–Scholes pricing model would be appropriate, since a static income model would likely

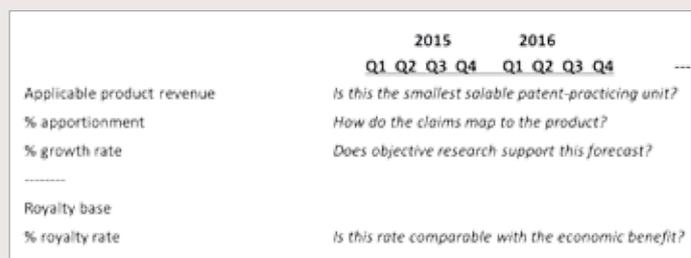


Figure 2: An income-based model relies on expert judgment for key inputs

underestimate the portfolio’s intrinsic value.

To be credible, almost every pro forma model includes a risk adjustment, such as discounting the periodic cash flows with a market-based cost of capital. For patent assets, either that “market” basis accounts for specific patent-related risk or a separate factor is applied. In other words, rarely would a 10% cost of capital by itself adequately handicap the risk of patent-related cash flows. Empirical data and experience enable quantifying these patent-specific risks, which range from validity and enforceability to technical claim strength. Further sensitivity analyses on major variables yield a range of values that allow for a constructive discussion and real-world feedback.

### Valuing patents via a market approach

When possible, the output range of an income model is compared with research and analysis of market comparable transactions. These transactions might include technology-driven M&A, stock price, pure patent portfolio sales and licences, or legal settlements. Each data point requires experienced judgment to glean meaningful insight.

- M&A: For patents developed in-house, a company capitalises only legal costs on its balance sheet. In a business combination, accounting rules IFRS 3 and FASB 141/142 require more detail on how the purchase price is allocated to acquired intangibles, as opposed to lumping these under goodwill. A detailed purchase price allocation provides shareholders and other constituents with more transparent information on the deal. Unfortunately, many deals either don’t meet the materiality threshold for disclosure or the fair value was based upon a “preliminary valuation” and accounting treatment subject to coarse future revision. In Google’s 2012 second quarter report, it allocated \$5.5bn to Motorola’s “patents and developed technology.” Of course, the cash price paid for the patent portfolio alone was much lower after stripping out know-how, divesting the non-patent assets, realising tax benefit, and so on. In less complex deals, research into the footnotes of public financial disclosures can yield useful data on how an acquirer values different categories of intangible assets.
- Stock price: A market premium over book value of publicly traded companies represents investors’ expected present value of all intangible assets including IP, brand, know-how, barriers to competition, and other off-balance sheet competitive advantages. Extrapolating patent value from the market-to-book premium must consider that most assets are not marked to market and that investors may not be pricing in all competitive advantages, as was the case with the AOL example earlier. For a public company in fundraising, market pricing inefficiency leads to much higher costs of capital. Despite the drawbacks of market-to-book, calculations using these data can help to ground a fanciful model.
- Legal decisions: As the audience of this publication is well aware, related settlements and verdicts provide further reality check.
- Pure patent deals: With the increasing number of patent deals, the key question is whether a particular deal is really comparable to the subject patent portfolio. Headline deals have skewed expectations higher, as in the Kodak auction mentioned earlier. Unfortunately, neither IBM nor other large sellers publish a quarterly log of patent sales with details on who bought what specific assets for how much and why. Detailed research is required on buyer disclosures, patent reassignment data, deal bulletins, etc. When the research identifies the subject patents, legal and technical analysts can evaluate claim strength, breadth, product applicability, and the myriad of other patent diligence inputs. Larger portfolios can be objectively scored using bibliometric data, like citations, that are indicative of quality. As shown in Figure 3, such analyses can largely separate the wheat from the chaff within the portfolio and against other portfolios.

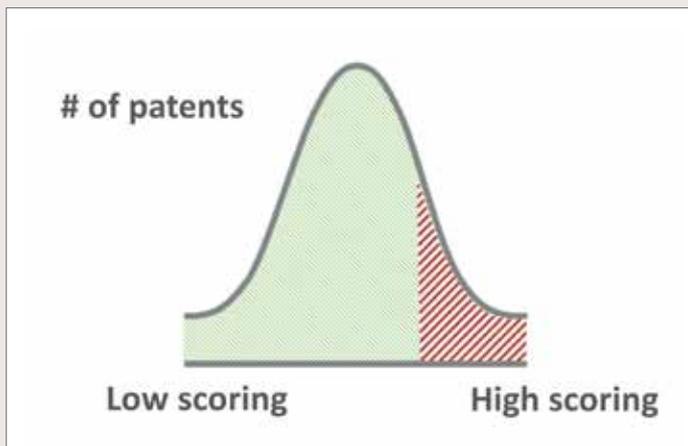


Figure 3: An objective scoring enables a first-pass triage of portfolios

**“Pundits have been sceptical about the ROI for Google, but the retained patents benefit Google in a number of ways. An objective value calculation must consider a number of factors from Google’s perspective.”**

**Reading between the (head)lines**

More operating companies have come to view patent licensing/litigation as the ultimate vehicle for generating return on their IP investments. However, this perspective often underestimates the true costs of such a campaign, such as the potential for negative brand impact. Furthermore, these companies risk developing a narrow IP strategy that overlooks more valuable, albeit sometimes harder to quantify, drivers of ROI. A broader view of IP strategy and ROI is critical in both acquisition and organic portfolio development.

As a case study, Google announced its acquisition of Motorola in August 2011. For \$12.5bn, Google bought a collection of businesses and intangible assets such as the Motorola-related brands, technical know-how and experience, and a large patent portfolio. With its sale of the core Mobility business to Lenovo in early 2014, Google has now divested most of the original assets. However, Google has retained the bulk of the patent portfolio along with some research and engineering know-how.

Pundits have been sceptical about the ROI for Google, but the retained patents benefit Google in a number of ways. An objective value calculation must consider a number of factors from Google’s perspective.

- Deterrence of law suits: The Motorola patents could have fallen into litigious hands, creating further headaches for Google’s legal team. This oft-cited driver for Google’s original acquisition is still very relevant.
- Cross-licensing value: These agreements are effectively cold war “peace treaties” with other large tech companies, including Samsung and Cisco. Without Motorola’s large portfolio of trade bait, Google would likely be paying cash for these licences. With such heavyweights out of the ring, Google reduces its future risk of paying litigation expenses on the scale of Apple-Samsung.
- Options for new ventures: These patents, along with the underlying technology and residual Motorola know-how, provide options for new product development. Even if Google doesn’t pursue a particular option alone, the technology assets can enable it to form favourable JVs and partnerships.
- Resale value of the patent assets: Although Google has lobbied against so-called patent “privateering,” the company could profit from making a small investment to triage and position its portfolio, perhaps to a potential low-risk operating partner.

These strategic advantages, among others, persist in the retained Motorola patent assets. Google has already realised some measurable value, such as cash savings from cross-licences, and it preserves non-trivial option value to access new opportunities. In calculating the patent portfolio value to Google, note that these advantages are largely additive.

After understanding “How much is this asset worth,” the next logical question is how to maximise the value, in terms of strategic management of the assets and competitive advantage. As with any asset, the imperative is linking patents to value creation, ie, increased revenues or decreased costs. A broad, business orientation on IP strategy and ROI enables a company to realise the intrinsic value of its patent portfolio.

**Takeaways**

- Consider the context in any valuation
- Consume data critically
- Use multiple approaches to value assets
- Maximise patent value with a broad view of IP strategy

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