

Porcupine Leapfrog and Long-Term Technology Investing

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"We tend to overestimate the effect of a technology in the short run and underestimate the effect in the long run." –Roy Amara

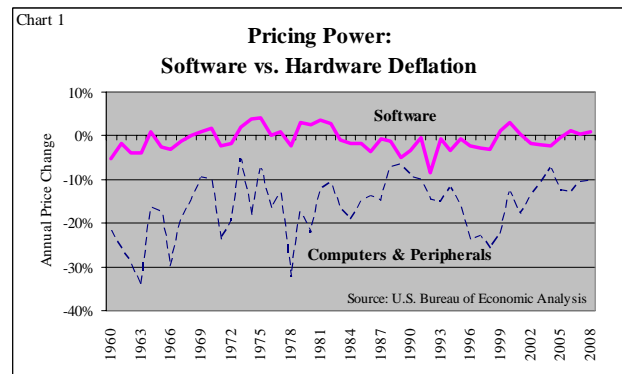
The technology sector has produced many of the great growth and wealth-creating companies of our time. And while the future may be uncertain, this sector's continued innovation bodes well for its ability to create long-term growth. For some market observers, the notion of technology and quality might appear to be an oxymoron. After all, technology epitomizes Schumpeter's concept of "creative destruction": a perpetual saga of wealth-creating innovation and value-destructing obsolescence. This can cause occasional bouts of euphoric speculation or fearful panic in specific names – or for that matter, the entire sector. So, how exactly does a long-term, quality growth manager invest in technology? The same way porcupines play leapfrog . . . very carefully.



As in other sectors, we carefully search for those select companies that meet our standards for predictable growth, high quality and compelling valuation. Those familiar with our approach know that we seek pricing power, repeat revenues and long runways of growth based on global reach. In technology, these qualities typically manifest themselves in the form of:

- (1) structural customer loyalty derived from high switching costs or 'network effects',
- (2) long product cycles, consolidating industry structures and/or service annuities, and
- (3) durable innovations with manageable or distant obsolescence risks.

Long-term investors must be especially selective in technology. Some subsectors, such as commodity hardware, suffer from persistent deflationary trends (see Chart 1) causing low and volatile profit margins. In contrast, we focus on companies that have **sustained pricing power from customer lock-in and rising margins**. For example, enterprise software companies such as SAP and Oracle have grown profit margins – even during this recession – because their customers face significant cost and risk in switching from their proprietary and mission critical software systems. Enterprises and public sector organizations voluntarily enter into multi-year strategic commitments to these platforms and consistently renew software maintenance agreements which drive vendor margins higher. Businesses such as Microsoft's Windows, Google's Search, Amazon's e-commerce platform, and Apple's iPhone produce high incremental margins through structurally-reinforcing 'network effects' in which the value proposition grows with the size of the network itself.



Some subsectors have short product cycles or fragmenting industry structures - either of which can create market share volatility and unpredictable revenues. Given our approach, we instead search for predictable, recurring revenue streams derived from **long product cycles, consolidating industry structures and/or service annuities**. Cellular technologies, for example, have decade-long lives and are consolidating from numerous regional variants to globally-accepted standards. Building upon this stability and consolidation, wireless innovator Qualcomm licenses its vast intellectual property estate of cellular patents to mobile handset manufacturers in exchange for a royalty on the sale of virtually every advanced cell phone. The result is a predictable, growing stream of high-margin royalty revenues similar to the recurring maintenance annuities of SAP and Oracle mentioned above.

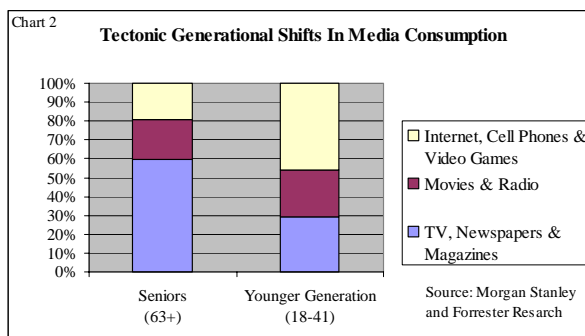
Because of the tremendous financial incentives for disruptive innovation, we assume *prima facie* that every technology incumbent faces competitive obsolescence risks. Given our long-term approach, we search for **durable innovations with manageable or distant obsolescence risks**. For example, Amazon has diversified its merchandise mix from a reliance on physical media to one now driven by rapid growth in electronics and general merchandise. It did so by more broadly applying its enduring innovations: a low-cost structure derived from the absence of retail stores and faster inventory turns as well as technology-driven customer service excellence. Qualcomm, through deft acquisitions and licensing agreements, appears to have constructed a royalty model that should allow it to navigate the technology transition from 3rd generation (3G) mobile technology to its 4th generation (4G) successor over the next decade.

In the deleveraged “new normal”, secular GDP growth may settle at a low level for an extended time. If so, growth companies will become scarcer – and more valuable. We see a number of global and long-tailed secular ‘megatrends’ in technology that will create long runways of growth for well-positioned companies:

Enabling the Efficient and Agile Enterprise: Given slower global growth, companies are likely to (a) further automate and globally diversify supply chains to remain competitively lean and (b) market, sell and distribute more globally in order to secure scarcer revenue opportunities. As such, we think corporations will need to further invest in their software infrastructures to more efficiently and flexibly manage an increasingly complex, geographically-distributed array of customers, partners, operations, employees, vendors, and regulators. Beneficiaries include SAP, Oracle and Microsoft.

Digitally Transforming Consumer Media and Commerce:

The Internet, in its early life, has already been the center of epic bubbles and busts. But like the railroads, the telephone and other transformational technologies, the Internet has forever changed commerce and lives globally. Along with new digital media technologies, it has incited a revolution in media and commerce by demolishing the distribution oligopolies of incumbents (see Chart 2). Consumers worldwide will continue to seek better, timelier, cheaper and easier-to-use content, communication and commerce online. Beneficiaries include Apple, Amazon and Google.



Networking the Globe: The consumer, corporate and public sectors are all seeking a faster, visually richer and more mobile internet infrastructure for better commerce, content and communication experiences. To meet this demand, we expect continued aggressive growth in Internet-Protocol and mobile communications equipment. Beneficiaries include Qualcomm, Apple and Juniper Networks.

Finally, we employ valuation discipline to inform all of our investment decisions. Given our quality focus, we tend to view **free cash flow (FCF) as the best indicator of business model quality and intrinsic value**. Apple, Google and Juniper Networks boast net cash positions on their balance sheets in excess of 10% of their market capitalizations. These companies as well as Qualcomm, Microsoft, SAP, Oracle and Amazon generate FCF comparable to, if not better, than earnings. On a cash basis, these technology companies are more attractively valued than low quality companies with nominally lower price-to-earnings ratios but leveraged balance sheets and weaker earnings to free cash flow conversion. We have taken advantage of significant price dislocations over the past 18 months to add a number of these quality growth franchises to our client portfolios. While most have generated strong returns recently, we think they still remain undervalued on both an absolute and relative basis.

To capitalize upon the tremendous growth opportunities in technology, long-term investors – like leapfrogging porcupines – must jump with caution, discipline and good timing. Based on these time-tested virtues, our approach should produce great rewards, especially in an environment where growth is scarce.

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