

Secular Trends

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Abstract

Businesses are strongly effected by secular trends, at least over the long-term. In this paper I list and briefly sketch out some of the secular trends I believe are currently shaping the world, society and the economy, and my views on how it should effect one's investment strategy. The listed trends include the global decline in serious military conflict, the Digital Revolution, the rise of the Winner Take All –economy, the accelerating pace of Creative Destruction, and the Green Revolution, all of which I believe the long-term investor should keep in mind when making decisions.



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Introduction

Businesses are strongly effected by secular trends, at least over the long-term. The dictionary defines “secular trend” as a “economy or market trend associated with some characteristic or phenomenon which is not cyclical or seasonal but exists over a relatively long period.” Currently unfolding major secular trends include the digital revolution, the “green revolution”, globalization, and the rise of the BRIC –countries (Brazil, Russia, India and China).

Over the short to medium-terms, companies and industries can remain untouched by, and even in defiance of, secular trends. Operationally excellent companies (with e.g. significant cost advantages) or companies with exceptional brands may buck a trend for quite some time, e.g. milking the last drops of profits from a dying industry. But eventually even they must accommodate; even the most efficient and well reputed horse-carriage makers were eventually replaced by the then upstart car-industry.

Consequently, over the long-term, companies and industries must harness or adjust to secular trends or perish; watch e.g. the current struggle of traditional printed media (e.g. newspapers) under the onslaught of digital media (e.g. internet news sites). Short term investors need perhaps not pay much attention, but long-term investors ignore secular trends at their peril.

Below I list and briefly sketch out *some* of the secular trends I believe are currently shaping the world, society and the economy, and my views on how it should effect one’s investment strategy. The list is by no means exhaustive, and many of the trends are interlinked and/or overlapping.

- The global decline in serious military conflict. Although seemingly counter-intuitive to most people living on a steady diet of news, the world is actually becoming an increasingly peaceful place.¹ The most obvious change is naturally the end of the cold-war, which not just dramatically decreased the probability of a global nuclear holocaust but also more or less de-fused the ideological tension underlying many limited, local conflicts.^{2 3} The release of a substantial part of the globe from the spectre of communism, the decrease in actual conflict, and the decreased need for military spending has furthered globalization and freed both human and financial capital for more financially productive endeavours than killing one another.⁴ In my mind, this is one of the most important sources of long-term optimism, and a prime reason to believe that the rate of global value creation will not just hold, but accelerate in the future.
- The Digital Revolution. Less than a generation ago, the industrialized world entered into the Information Age, the basic characteristic of which is the ability of individuals and organizations to collect, analyze, manipulate, transfer and communicate information instantly, freely and cheaply, and to have instant access to practically all the accumulated knowledge of humanity; knowledge that would have previously have been difficult or impossible to locate and/or access. This has had, and will increasingly continue to have, enormous implications, not just for business and the economy, but for society as a whole. Sub-trends of the Digital Revolution include Moore’s Law,⁵ the rise of the network-society,⁶ Metcalfe’s Law,⁷ and Arthur’s Law.⁸ The Digital Revolution has touched most industries. The most obvious winners are naturally the providers of the hardware and software itself, but almost all industries have benefitted in the form of increased efficiency. However, there have also been losers. These include industries that rely on increasingly obsolete platforms for disseminating information, e.g. traditional printed media. Over time, other effected



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industries will include all that rely on semi-skilled, low-value added human inputs that to an increasing degree be replaced by computers or robots or those who have based their business model or competitive advantage on resources or capabilities made obsolete by the digital revolution.

- The Accelerating Pace of Creative Destruction.⁹ The rate of innovation, the creation of new industries and new companies, and the rate of replacement of old, obsolete companies continues to increase,¹⁰ fuelled by several other trends.¹¹ This has several implications for investors, the most obvious downside being the increased risk of any portfolio company seeing their markets and revenues conquered by nimble upstarts with superior products, processes or business models, and the most obvious upside being the increased value creation made possible by the process. The continuing acceleration of the rate of innovation resulting from the increase in the number of conceptual and intellectual “building blocks” (i.e. previous innovations, e.g. scientific concepts, technological inventions, business models¹²) which in turn will lead to an accelerating rate of wealth creation. This trend is further reinforced by the spread of information technology (especially the Internet) that for the first time in human history has made virtually all the accumulated knowledge (building blocks) of humanity available real-time to anyone with an Internet-connection.
- The Rise of the Winner Take All –economy. One interesting phenomena deserving of the epithet trend that is arising from the interaction and synergies of several other trends¹³ is what many economists call the “Winner Take All”¹⁴ –economy. From the perspective of individual companies, a Winner Take All –economy is one in which a small set of companies is creating almost all of the new shareholder value. Simultaneously, the value of their less successful competitors is declining faster than before. My intuitive and subjective conviction of the intensification of this trend is supported by recent research, according to which the polarization of winners and underperformers is indeed intensifying.¹⁵
- The Green Revolution. With this I naturally refer to the ecological awareness that in less than one generation has evolved from a hippy, left-wing marginal movement to the very centre of mainstream, with politicians and formerly scornful corporate tycoons increasingly trying to “out-green” each other. This shift has many implications for investors, the most obvious of course being that it has created several new industries (green technology, green energy etc.). However, while the economics of these new industries remains unclear, the other, usually political implications are just as critical. One likely effect of the green revolution is that industries that are *or are perceived to be* environmentally hazardous (e.g. many extracting industries, such as mining) will face increased headwinds (in the form of new costs due to tightening legislation, political bad-will etc.), and vice versa; “green” industries will enjoy tailwinds, at least as a result of increased political and brand good-will.
- Globalization. The continuing process of globalization will enable increasing exploitation of comparative advantages¹⁶, lead to massive efficiencies of scale and enable optimal resource allocation, benefitting all participants through increases in productivity and maximizing total theoretical output.
- Westernization. Westernisation or occidentalisation is the process whereby societies come under or adopt the Western culture in such matters as industry, technology, law, politics, economics, lifestyle, diet, language, alphabet, religion, philosophy, values. Westernisation



has been a pervasive and accelerating influence across the world in the last few centuries. Whether we like it or not, western culture is the dominant culture of our time,¹⁷ and in many minds “modern” is *de facto* synonymous with “western”. English is the lingua franca of the space-age. Consider furthermore, e.g. the astonishing fact that almost 90 % of box-office receipts outside the US is made up by American films!¹⁸

- The Emergence of the Global Middle Class. The gradual rise of an increasing number of people out of extreme poverty and into the quickly growing global middle class,¹⁹ which will: (i) dramatically expand global markets²⁰ (since people who live from hand to mouth do not, per definition, have discretionary income, and thus cannot constitute *consumers*; the basic prerequisite for the formation of *markets*), and; (ii) dramatically accelerate global capital formation (since people who live from hand to mouth cannot, per definition, be *savers*; i.e. *accumulators of capital*), which in turn will; (iii) dramatically increase *productivity* (since capital, e.g. machinery, can now to an increasing degree be deployed in the production process), and; (iv) further reinforce and accelerate the process of capital formation (since capital per definition is an asset that has the potential to create *more* wealth, i.e. *capital creates more capital*).



Endnotes

¹ Economic growth improves lives unobtrusively. The more dramatic explanation for improved living standards is the decline in the number of wars, and in deaths from violence and genocide. This explanation for prosperity will seem far-fetched to many. International opinion has long held that the end of the cold war unlocked a Pandora's box of ethnic violence that superpower rivalry had kept contained (the splitting of Yugoslavia being the classic example). Most people believe that the number of wars has increased; that conflicts have become deadlier (Iraq is typical); and that there are more acts of genocide (Darfur being one recent). Yet there is surprisingly little evidence to back up this impression. The number of conflicts (both international and civil) fell from over 50 at the start of the 1990s to just over 30 in 2005 (definitions are obviously fluid; these are the ones used by scholars at the universities of Uppsala and British Columbia for a project called the "Human Security Report"). On their definitions, the number of international wars peaked during the 1970s and has been falling slowly since. The number of civil wars continued to rise until about 1990 and then fell precipitately. In total, the death toll in battle fell from over 200,000 a year in the mid-1980s to below 20,000 in the mid-2000s. Source: The Economist, *"The world's silver lining: Somewhere over the rainbow"*, January 24 2008

² About a third of conflicts from 1950 to 1990 were connected to cold-war rivalry. In addition, during the early years of that period, there were many wars between retreating colonial powers and independence movements, a source of violence that has almost disappeared. Source: The Economist, *"The world's silver lining: Somewhere over the rainbow"*, January 24 2008

³ "Yes, but what about terrorism?" I hear you ask. Terrorism is a real threat, but anyone comparing the threat posed by terrorism to the threat posed by the cold-war reveals deep historical ignorance and is also a prime example of the cognitive bias called the "recency effect" — the tendency to weigh recent events more than earlier events. Mr. Bin-Laden and his Merry Men most certainly are a nasty bunch, and 9/11 certainly was both a tragedy and a spectacular coup. However, had the cold-war climaxed in a nuclear showdown between the US and the USSR (not an unlikely outcome at the time), the best-case scenario would have resulted in *millions* of dead; in the worst-case scenario, human civilization would have been wiped out! Comparing these risks to the risks posed by a ragtag group of religious fanatics toting AK-47's, clothed in bathrobes and too poor to afford proper razors, is a travesty.

⁴ According to economist Lawrence Lindsey, "There is a widely held but utterly false belief that wars are good for the economy. Taking resources that could be used to build homes, manufacture appliances, or invent and develop new technologies and using them instead to make things that get blown up is not good for an economy. It can foster inflation and erode a nation's capital base." Fortune, *"What the Iraq war will cost the U.S."*, January 11 2008

⁵ Moore's law describes a long-term trend in the history of computing hardware. Since the invention of the integrated circuit in 1958, the number of transistors that can be placed inexpensively on an integrated circuit has increased exponentially, doubling approximately every two years. The trend was first observed by Intel co-founder Gordon E. Moore in a 1965 paper. It has continued for almost half a century and in 2005 was not expected to stop for another decade at least. Almost every measure of the capabilities of digital electronic devices is strongly linked to Moore's law: processing speed, memory capacity, even the number and size of pixels in digital cameras. All of these are improving at (roughly) exponential rates as well. This has dramatically increased the usefulness of digital electronics in nearly every segment of the world economy. Moore's law describes this driving force of technological and social change in the late 20th and early 21st centuries.

⁶ Manuel Castells is a Spanish-American sociologist associated particularly with research into the information society and communications. According to the Social Sciences Citation Index's survey of research from 2000 to 2006, Castells was ranked as the fifth most cited social sciences scholar and the foremost cited communications scholar in the world. According to Castells, networks constitute the new social morphology of our societies. According to Castells *"...the definition, if you wish, in concrete terms of a network society is a society where the key social structures and activities are organized around electronically processed information networks. So it's not just about networks or social networks, because social networks have been very old forms of social organization. It's about social networks which process and manage information and are using micro-electronic based technologies."* The diffusion of a networking logic substantially modifies the operation and outcomes in processes of production, experience, power, and culture. For Castells, networks have become the basic units of modern society. The network society goes further than the information society that is often proclaimed. Castells argues that it is not purely the technology that defines modern societies, but also cultural, economical and political factors that make up the network society. Source: Manuel Castells, *"The Rise of the Network Society"*, Blackwell 1996

⁷ Network effects are sometimes measured by the so-called "Metcalfe's Law". Named after Robert Metcalfe, founder of 3Com Corporation and designer of the Ethernet computer network protocol, Metcalfe's Law states that the usefulness, or utility, of a network equals the square of the number of users. Thus the value of a network grows exponentially as



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nodes are added arithmetically. The law has often been illustrated using the example of the telephone network: a single telephone machine is useless, but the value of every telephone increases with the total number of telephones in the network, because the total number of people with whom each user may communicate increases. It is obvious that powerful network effects are at work on an on-line auction like eBay; buyers flock to the place with the most sellers (because the superior selection and best chances of finding bargains), and sellers flock to the place with the most buyers (in the hope of finding the highest bidder). Once this process is on its way, it creates powerful, self-enforcing loops of positive feedback. Positive feedback is one of the main indicators of so-called “Winner-Take-All” or “Winner-Take-Most” –markets; natural monopoly markets that usually end up completely dominated by one firm. For a more detailed discussion, see e.g. Shapiro & Varian, *“Information Rules: A Strategic Guide to the Network Economy”*, Harvard Business School Press, 1999.

⁸ Brian Arthur is an Irish-American economist credited with influencing and describing the modern theory of increasing returns. He is a respected thinker on economics and complexity theory in technology and financial markets, and other applications. Presently, he is on the external faculty at the Santa Fe Institute, and a Visiting Researcher at the Intelligent Systems Lab at PARC. Arthur has coined a half tongue-in-cheek economic law he calls “Arthur’s Law”, according to which (in his own words): *“Let me begin by pointing out a general trend. We are seeing a shift in the economy from localized physical markets and physical interchanges to digital networks of all kinds: business-to-business networks, peer-to-peer networks, web auctions, the digital brokering of commodities, genealogy groups, chat networks, and outsourcing networks. All of these networks are made possible by connectivity, and backed by computers. Most people are aware of this shift. Manuel Castells of Berkeley has pointed out that in a sense this is not new: formal and informal networks have been around for a long time, but we are currently entering an electronic age of competing digital networks. In my language, networks are the first emergent structure, the first dominant pattern that we are seeing in the digitally-based economy. Factories with inputs and outputs are the dominant patterns of the old manufacturing economy. The network is the dominant pattern of the new digital economy. However, this economy of competing networks will be overlaid onto the old economy of factories and inputs and outputs. The old, manufacturing economy will not be entirely replaced. Competition in networks will shake out according to what I believe can be almost called a Law: “Of networks, there will be few.” We currently have 9,500 commercial banking companies in the United States. I believe we will have only a single-digit number of digital-banking virtual networks in the future. Perhaps three, perhaps half-a-dozen. One reason is that digital networks by definition will have global reach, and this will diminish greatly the importance of locality. So a very few networks can cover a full global clientele. A second reason that there will be few networks in any market niche is increasing returns—the tendency of that which gets ahead to stay ahead and go on to lock in a market. The degree of increasing returns present in a market niche will determine the number of viable networks left standing once the shake out of competitors in that niche is complete. Offsetting this, the more networks can be differentiated in a market, the greater the number of networks that can maintain viability. My strong belief is that in nearly all digital-network niches, increasing returns effects will overcome network differentiation effects. And therefore, of networks there will be few.”* W. Brian Arthur, *“Myths and Realities of the High-Tech Economy”*, talk given at Credit Suisse First Boston Thought Leader Forum, September 10, 2000

⁹ The notion of creative destruction is found in the writings of Mikhail Bakunin, Friedrich Nietzsche, and in Werner Sombart's *Krieg und Kapitalismus (War and Capitalism)* (1913), where he wrote: *“again out of destruction a new spirit of creativity arises”*. In *Capitalism, Socialism and Democracy*, the Austrian economist Joseph Schumpeter popularized and used the term to describe the process of transformation that accompanies radical innovation. In Schumpeter's vision of capitalism, innovative entry by entrepreneurs was the force that sustained long-term economic growth, even as it destroyed the value of established companies that enjoyed some degree of monopoly power.

¹⁰ The first Standard and Poor's index of 90 major US companies was created in the 1920s. The companies on that original list stayed there for an average of 65 years. By 1998, the average anticipated tenure of a company on the expanded S&P 500 was 10 years. The pace of creative destruction is picking up speed, fuelled by several powerful secular trends. If history is a guide, over the next quarter century no more than a third of today's major corporations will survive in an economically important way. Source: Richard Foster and Sarah Kaplan, *“Creative Destruction: Why Companies That Are Built to Last Underperform the Market—and How to Successfully Transform Them”*, Financial Times Prentice Hall 2001

¹¹ These fuelling trends include the rise of entrepreneurship (backed by e.g. the fall of communism) ever more effective diffusion of information (e.g. through the Internet), capital (through more efficient capital markets), decreasing barriers to trade (through globalization) etc.

¹² According to management professor Andrew Hargadon, most innovations are not truly and inherently “new”; instead they could be describes as novel combinations of previously existing “building blocks”, i.e. existing innovations. For example, the aeroplane can be seen as a re-combination of previously existing technological inventions or scientific principles, namely: (1) the combustion engine; (2) the propeller, and; (3) Bernoulli’s principle. According to Hargadon,



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“All innovation represent some break from the past – the lightbulb replaced the gas lamp, the automobile replaced the horse and cart, the steamship replaced the sailing ship. By the same token, however, all innovations are built from pieces of the past – Edison’s system drew its organizing principles from the gas industry, the early automobiles were built by cart makers, and the first steamships added steam engines to existing sailing ships” If we accept Hargadon’s argument, it follows that as the total number of “building blocks” increase as a result of the continuing scientific, technological and cultural development, so will the number of possible new combinations. Let’s illustrate the claim with a simple mathematical example. Let’s say we have four (4) building blocks with which to create potential new combinations at our disposal. The theoretical maximum number of combinations is: $4 \times 3 \times 2 \times 1 \times = 24$. If we increase the number of building blocks by two (2), (i.e. from 4 to 6, representing an increase of 50%), the new theoretical maximum number of combinations is: $6 \times 5 \times 4 \times 3 \times 2 \times 1 \times = 720!$ (representing an increase of 2.900% - that is two-thousand nine-hundred percent!) (Caveat: it goes without saying that in the real world, all theoretically possible combinations are not necessarily practically feasible. However, the example nicely illustrates how innovation paves the way for new innovation.) We live in times of fast and accelerating scientific and technological discovery; as the number of building blocks keeps increasing, so will the number of potential new combinations (i.e. innovations). This will inevitably lead to economic growth too. Source: Andrew Hargadon, “*How Breakthrough Happen*”, Harvard Business School Press, 2003.

¹³ These fuelling trends include, *inter alia*, the decreasing barriers to trade, the ever more effective diffusion of information (e.g. through the Internet) and the free movement of capital, people and goods.

¹⁴ The term is credited to Robert H. Frank, professor of management and economics at Cornell University's S.C. Johnson Graduate School of Management. He is a monthly contributor to the "Economic Scene" column in The New York Times. In his book “*The Winner-Take-All Society*”, Frank discussed the fact that more and more of current economy and other institutions are moving toward a state where very few winners take very much, while the rest are left with little. The phenomena may to a large degree be explained by the structure of modern markets and technology.

¹⁵ As a result of the advance of globalization and technology, companies whose products or service models have the slightest edge over the competition can quickly exploit that advantage. Investors are scrutinizing companies one by one, screening out those with merely average performance and investing the bulk of their money with the top one or two players in each arena. This phenomenon has created a "winner-takes-all" dynamic in which 5 to 10 percent of the companies in a given industry create all of the shareholder value. Source: David Campbell and Ron Hulme, “*The winner-takes-all economy*”, McKinsey Quarterly February 2001

¹⁶ The term “comparative advantage” is usually attributed to economist David Ricardo who explained it in his 1817 book “*On the Principles of Political Economy and Taxation*” in an example involving England and Portugal. In Portugal it is possible to produce both wine and cloth with less labour than it would take to produce the same quantities in England. However the relative costs of producing those two goods are different in the two countries. In England it is very hard to produce wine, and only moderately difficult to produce cloth. In Portugal both are easy to produce. Therefore while it is cheaper to produce cloth in Portugal than England, it is cheaper still for Portugal to produce excess wine, and trade that for English cloth. Conversely England benefits from this trade because its cost for producing cloth has not changed but it can now get wine at a lower price, closer to the cost of cloth. The conclusion drawn is that each country can gain by specializing in the good that it has comparative advantage in and trading that good for the other.

¹⁷ Thus the historian and philosopher Arnold Toynbee: “*What will be singled out as the salient event of our time by future historians, centuries hence, looking back on the first half of the twentieth century and trying to see its activities and experiences in that just proportion which the time-perspective sometimes reveals? Not, I fancy, any of those sensational or tragic or catastrophic political and economic events which occupy the headlines of our newspapers and the foregrounds of our minds; not wars, revolutions, massacres, deportations, famines, gluts, slumps, or booms, but something of which we are only half-conscious, and out of which it would be difficult to make a headline. Future historians will say, I think, that the great event of the twentieth century was the impact of the Western civilization upon all the other living societies of the world of that day.*” Arnold J. Toynbee, “*Civilization on Trial*”, Oxford University Press, 1948

¹⁸ Jeffrey R. Williams, “*Renewable Strategy*”, The Free Press, 1998.

¹⁹ “*Notions of shopkeepers – Why the new middle classes are so good for their countries’ economies*” from “*Burgeoning bourgeoisie - The Economist special report on the new middle classes in emerging markets*” Economist February 14th 2009

²⁰ “*The concept of ‘Acceleration’ was first developed by Aftalion, a French economist at the beginning of the XXth century. Aftalion explained that most socio-economic variables are distributed according to the ‘normal’ law, the famous bell-shaped curve, affectionately also called the bowler hat. In most developed or developing nations, income is*



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distributed according to a Gaussian pattern, a large percentage of the population having an income close to the 'average' income. There will be few people with a very low income and few with a very high income. At both ends of the curve (the tails), one finds a very small population in percentage. Assuming that, in a given country, the average income in 1985 was US\$5,000/year. The number of people earning more than US\$10,000 will be, for example, 5%. If, by 1990, this average income goes up to US\$8,000 (+60%), the number of people earning more than US\$10,000 will not go up by 60%, but by a much larger figure (say 180%). And this is where the acceleration comes in: when it comes to the buying of certain goods and services, the historical evidence seems to suggest the existence of 'thresholds'. For example, if the average income in a country is below US\$1,000, nobody owns a television; when the income moves above US\$1,000, then almost everybody buys one. For the automobile industry, the critical level seems to be US\$10,000/year. For university education US\$20,000... So, in the country chosen as an example, when the average income reaches \$10,000, the demand for cars will literally explode way beyond the correspondent growth in income. Acceleration works in a very surprising way. Similarly, if the average income falls from US\$10,000 to US\$8,000, the demand for cars will not decline by 20%, but will disappear! At the same time, if the price of a good falls, then the threshold level falls with it. A quick example. In 1999, there were practically no mobile phone subscribers in China. But as incomes rose and the price of phone calls fell, the market for mobile phones in China evolved from being nonexistent to becoming the world's largest (around 300 million people have mobiles in China). As incomes rise across emerging markets, various thresholds are crossed and consumption explodes. The boom in consumption is boosted further by the fall in certain prices (electronics, automobiles, etc.)." Source: Anatole Kaletsky, Charles Gave, Louis-Vincent Gave, "Our Brave New World" 2005



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