IR&M

Ineichen Research & Management ("IR&M") is an independent research firm focusing on investment themes related to absolute returns and risk management.

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When Reality Kicks

Executive summary

■ Investors face various challenges. Capitalism is on a sabbatical. The misallocation of capital continues. Repressionomics reigns. Debt levels are rising. Demographics are not helping. Governmental intervention into free markets is rising continuously. Many industrial economies have been robbing Peter to help Paul. But now they need to rob Tom, Dick, and Harry to help Peter.

■ If something cannot go on forever, it won't. Herbert Stein's Law applies. The uncertainty with regards to the timing of the homecoming chicken to be roosted is a challenge for all investors.

■ Modern Portfolio Theory suggests there is such a thing as an "efficient frontier" where the trade-off between expected risk and expected return can be "optimized." However, there are many constraints that make asset allocation using a two-dimensional model an almost comical endeavour. Many viable investments for the flexible and sophisticated investor simply do not fit into a two-dimensional grid. The ideal portfolio is a well balanced portfolio that is regularly rebalanced and reasonably well understood by all who carry responsibility. Continuous learning as well as continuous search for new sources of returns is part of the response to the challenges investors face today.

■ 'Risk' as well as 'risk management' are terms that are not clearly defined. The ambiguity of terms is arguably a challenge for the fiduciary. The regulatory and accounting standards might be out of synch with good practice thereby distorting incentives for the various investment management and governance bodies. Potentially, it's a balancing act between doing what is rightful and what is right.

■ The investment landscape has opened to all kind of asset classes and investment forms. Savvy, flexible, sophisticated, intellectually-open minded, well-staffed, well-connected, and well-advised investors will be picking up liquidity and complexity premiums along the way. Bureaucratised, regulatory-burdened, liability-benchmark hugging, and mean-variance-optimizer-worshiping investors won't.

Content

The challenge

"A journey of a thousand miles begins with a single step."
—Lao-tzu, Chinese philosopher

"A journey of self-discovery starts with a single step. But so does falling down a flight of stairs."
—Kathy Lette, Australian author

Capitalism on Sabbatical

The current investment environment is special in many ways. Long-term government bond yields have never been as low as just recently. (In Britain and the Netherlands for example "never" means never within the past 400-500 years.) The pyramid-scheme-like accumulation of liabilities from social security systems is unprecedented as is the expansion of many central banks' balance sheet. Demographic changes add to the challenges of the institutional investor.

The belief that government intervention can fix things is not new; it just has a very bad track record.

Wriston's Law of Capital

The late Baroness Thatcher was obviously on to something in the side text; modern day Robin Hoods eventually run out of financing. Whether we call it socialist, or social-democracy, or *the third way* doesn't really matter. A society that gives incentives for ingenuity and innovation and is generally business-friendly prospers. A society that gives disincentives for ingenuity and innovation and is generally business-unfriendly doesn't. Chile is prospering; Venezuela isn't. Chile, just to pick two examples more or less at random, abides to Wriston's Law of Capital; Venezuela doesn't.

"Socialist governments traditionally do make a financial mess. They always run out of other people's money. It's quite a characteristic of them."
—Margaret Thatcher[1]

Wriston's Law of Capital is named after Walter Bigelow Wriston (1919-2005). Walter Wriston was a banker and former chairman and CEO of Citicorp. As chief executive of Citibank / Citicorp (later Citigroup) from 1967 to 1984, Wriston was widely regarded as the single most influential commercial banker of his time. The term "Wriston's Law of Capital" was coined by *Rich Karlgaard* from *Forbes* magazine in an article on his blog, *Digital Rules*, in 2006:

"Chavez is the best president Columbia has ever had."
—Columbian home owner[2]

> Capital will always go where it's welcome and stay where it's well treated… Capital is not just money. It's also talent and ideas. They, too, will go where they're welcome and stay where they are well treated.[3]

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[1] Margaret Thatcher , in a TV interview for Thames TV 'This Week' on 5 February 1976.

[2] "Trouble in Venezuela brings benefits to its neighbour," *Financial Times*, 8 May 2012

[3] "Predicting the Future: Part II," Rich Karlgaard, Forbes, 13 February 2006

This "law" can explain nearly everything. The key is that "capital" is not just money, its people and ideas too. The most prominent contemporary example is the United States of America. For most of its short history, the United States has been a magnet for capital, i.e., risk capital; people who want to work hard, people who want to excel academically, people who are unwelcome elsewhere, patents, ideas, talent, etc. It is no coincidence that *Silicon Valley* is in the United States. The *Manhattan Project* didn't just occur randomly in the United States. The people behind the Manhattan Project left Europe, Germany mainly, for the United States. They brought a long their capital, relationships, brains, and ideas.

The US is a magnet for capital whereby capital is defined broadly as risk capital, people, ideas, patents, IPs, talent, business connections, etc.

Amy Chua, professor of law at Yale Law School, in *Day of Empire,* examines tolerance in relation to empire building and empire sustainability. Tolerance— essentially the "welcome" and "well treated" parts in *Wriston's Law of Capital*—is key when building and sustaining an empire. The funny thing is that being nice to people is good for society. Who would have thought? It is not a coincidence, according to Chua, that both Germany and Japan failed in sustaining their empire. So capital and people, the lucky ones with well-developed survival instincts, just left. Wriston's Law of Capital suggests that capital moves on when it is not welcome and well treated. The practical relevance today is that capital is on the move again. It is not well treated everywhere; hence the movement.

"It is a little embarrassing that after forty-five years of research and study, the best advice I can give to people is to be a little kinder to each other."
—*Aldous Huxley (1894-1963), English writer*

Tolerance comes and goes. It is essential in the beginning of attracting capital (again, capital in a broader sense) but eventually vanes. The history of Europe is a case in point. Chua explains the rise and fall of societies and empires over the past 500+ years of European history not with tolerance but with *relative tolerance*. Immigrants in the 1930s have been more welcome in the United States than elsewhere. There was more political freedom, tolerance and equality of all citizens in the United States than there was elsewhere in the world, hence the migration. It always seems to work like that. There are many more examples. The following bullet points are "cannots" based on historical precedence.

Not tolerance, but *relative tolerance* is the key

The Cannots

To some extent these cannots capture the spirit of the Founding Fathers of the United States. Most likely they stem from Rev. William J. H. Boetcker (1873-1962), an American religious leader who lectured around the United States about industrial relations at the turn of the twentieth century and authored these cannots in 1916. At one time President Ronald Reagan used them in a speech, wrongly attributing them to Abraham Lincoln.

"Any man who is not a socialist at age 20 has no heart. Any man who is still a socialist at age 40 has no head."
—*Georges Benjamin Clemenceau (1841-1929), French journalist and statesman[1]*

- You cannot bring prosperity by discouraging thrift.
- You cannot help small men by tearing down big men.
- You cannot strengthen the weak by weakening the strong.
- You cannot lift the wage earner by pulling down the wage payer.
- You cannot help the poor man by destroying the rich.
- You cannot keep out of trouble by spending more than your income.

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[1] According to research by Mark T. Shirey, citing *Nice Guys Finish Seventh: False Phrases, Spurious Sayings, and Familiar Misquotations* by Ralph Keyes, 1992, this quote was first uttered by mid-nineteenth century French historian and statesman François Guizot (1787-1874) when he observed, "Not to be a republican at 20 is proof of want of heart; to be one at 30 is proof of want of head." (N'être pas républicain à vingt ans est preuve d'un manque de cœur ; l'être après trente ans est preuve d'un manque de tête.) This quote or a variant thereof has been attributed variously to George Bernard Shaw, Benjamin Disraeli, Otto von Bismarck, and others. (from wikiquote.org)

- You cannot build character and courage by taking away man's initiative and independence.
- You cannot help men permanently by doing for them what they could and should do for themselves.

Mr Reagan might be forgiven; these cannots of course strongly resemble the thinking of the erudite authors of the famous history-altering 1776 one-pager. The practical relevance is that many societies have been doing exactly what one cannot. Many investment professionals proficient in economic history will find these cannots intuitive. The reason why these investment professionals find these cannots intuitive is exactly because they *are* proficient in economic history. Some countries have been doing the cannots for decades. This is one of the reasons why the current investment environment is such a challenge. If you do something you "cannot", the chicken will eventually come home to roost. Herb Stein's law applies.

> **"I place economy among the first and most important republican virtues, and public debt as the greatest of the dangers to be feared."**
> —*Thomas Jefferson[1]*

Herbert Stein's Law

Herbert Stein was the formulator of "Herbert Stein's Law," which he expressed as "If something cannot go on forever, it will stop," by which he meant that if a trend (balance of payments deficits in his example) cannot go on forever, there is no need for action or a program to make it stop, much less to make it stop immediately; it will stop of its own accord. Stein's law has been recited in many different versions. But all have a common theme: If a trend cannot continue, it will stop. It is often rephrased as: "Trends that can't continue won't."
There was a time when small forest fires were prevented. This went well until it didn't. Herbert Stein's law applied.

> **"If something cannot go on forever, it will stop."**
> —*Herbert Stein (1916-1999), Chairman of the Council of Economic Advisers under Presidents Richard M. Nixon and Gerald R. Ford*

Yellowstone Effect and the government

Yellowstone National Park is a 2.2m acre forest in the United States. From 1890 onward, the attitude of the US Forest Service was one of "zero tolerance," even for small forest fires sparked by natural causes. The service tried desperately to put out every fire whatsoever.[2] One of the unintended effects of the zero tolerance policy was that the forests began aging. As Mark Buchanan, author of *Ubiquity*, put it:

> **Intervention can disturb natural evolution of things**

> *The old and weak plants were not replaced by the new and strong plants. The natural evolution was disturbed. Deadwood, grass and twigs, brush, bark, and leaves accumulated; as a result, the forests moved away from the natural critical state. The trouble is that fires are an indispensable component of the natural dynamics that keep forest in that state, so by suppressing them, the Forest Service has instead driven the forests into an even more unstable state, a supercritical state, with a high density of burnable material everywhere.[3]*

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[1] Letter to William Plumer, July 21, 1816, reported in ed., The Writings of Thomas Jefferson, Andrew A. Lipscomb, vol. 15, p. 47 (1903).
[2] From Buchanan (2000), p. 71.
[3] Ibid., p. 71.

In 1988, there was a wildfire, a black swan, and nearly 800,000 acres or 36% of the Park was affected. The intervention resulted in the prevention of small fires of a couple hundred or thousand acres. The 1988 wildfire was 32 times worse than the second worst fire from 1886. In forestry the lesson has been learnt, in political economics not so much. The big one could still be out there. The imbalances that have been building up like grains of sand falling on a sand mountain will need to correct in one form or another at one stage in the future.

The zero tolerance intervention of the US Forest Service is obviously very similar to the Fed's policies since Greenspan or to Draghi's "whatever it takes" stance. Recessions are to be prevented at all cost. This means the system cannot clear, or, in forest-parlance, rejuvenate. Detlev Schlichter, author of *Paper Money Collapse*, reminds us that the printing of money is just causing distortions and misallocations of capital in the markets, and that when the central banks say that without intervention the crisis would be worse, a different interpretation of that would be that the liquidation of some of those imbalances would have happened by now. Smaller fires would have renewed the old structures and had strengthened the system. Mr Schlichter:

> A monetary system like ours, which is a system of entirely elastic, unconstrained fiat money under central bank control, designed to constantly expand the supply of this fiat money so that its purchasing power keeps diminishing (controlled inflation), and that will be used periodically to 'stimulate' growth, is not, as the mainstream would have it, a guarantor of economic stability but, to the contrary, suboptimal compared to hard money, inherently unstable and indeed unsustainable. Such a system is fundamentally incompatible with functioning capitalism and a danger to economic stability and prosperity. If taken to its logical conclusion – which is what central banks seem determined to do at present – such a system must end in chaos... Money injections ALWAYS create dislocations, misallocations of capital, that will have to be liquidated in the future. Such imbalances are now abundant and certainly include excessive levels of debt, overstretched banks and inflated asset prices, i.e. distorted relative prices. As long as the mainstream maintains that 'easy money' is a necessary antidote to recession and as long as central banks continue to fight the present crisis with low interest rates and ongoing monetary expansion, these imbalances – that are the root cause of the current malaise and that logically have their origin in previous interludes of 'necessary monetary stimulus' – will not be allowed to dissolve or get liquidated but will instead be maintained, and new imbalances will get added to the old ones. The economic system moves further and further away from balance. The crisis is not ended but sustained.[2]

Inflation is not a huge issue in the immediate future. Breakeven inflation—a market proxy for future inflation—is low. (See Figure 1.)

Something has to give for health to be restored

"Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough."
—*Mario Draghi*[1]

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[1] "Debt crisis: Mario Draghi pledges to do 'whatever it takes' to save euro," *The Telegraph*, 26 July 2012

[2] "'But there is no inflation!' – Misconceptions about the debasement of money," Detlev Schlicher, cobdencentre.org, 24 October 2012. Emphasis in the original.

Figure 1: US 2-year breakeven inflation (January 2007 – 19 September 2013)

Source: IR&M, Bloomberg

At the moment the forces are deflationary. As the imbalances—such as excessive levels of debt, overstretched banks and inflated asset prices—get bigger, the (market) forces that work towards their liquidation become stronger. Sustaining the imbalances—in order to keep the illusion of stability alive—requires ever more aggressive money printing on the part of the central banks, which is what we are seeing around the world today. Banks are reluctant to lend, and the private sector is reluctant to borrow.[2]

We are not only living in an area of reflation but also in one of deleveraging. Figure 2 shows the "balance sheet" of the ten largest mature economies. The bar on the right hand side of the graph is GDP times total debt (households, non-financial corporations, financial institutions, and government).

"The American Republic will endure until the day Congress discovers that it can bribe the public with the public's money."
—*Unknown[1]*

Figure 2: Your assets versus their debt
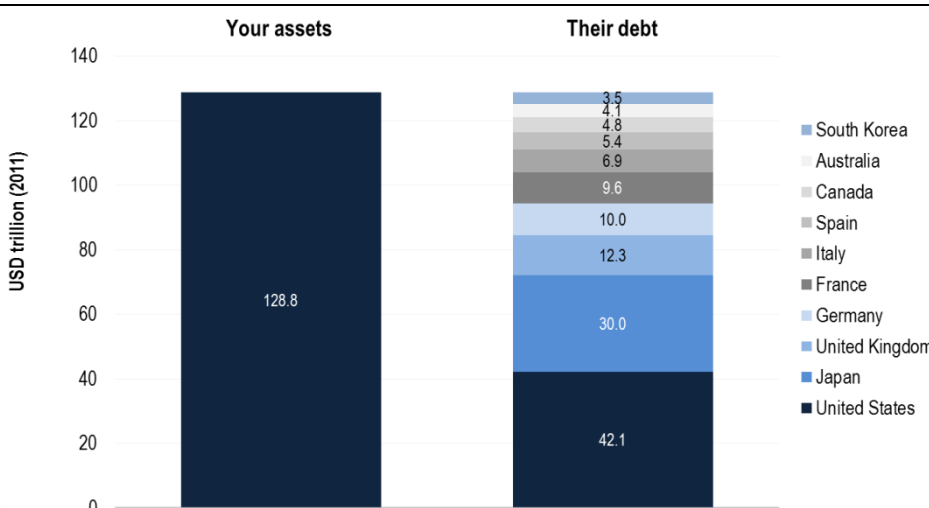
Source: IR&M, IMF, McKinsey

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[1] Often erroneously attributed to Alexis de Tocqueville (1805-1859) or Alexander Fraser Tytler (1747-1813).

[2] Ibid.

The sum of the bar on the right is $129 trillion. The practical relevance of this "balance sheet" is that someone's debt is someone else's assets. If the bar on the right shrinks, so does the bar on the left. If Detroit bonds fall or default, the balance sheet of European banks shrinks too; at least in the real, mark-to-market world. (In the mark-to-model world, one can pretend all is well, of course; for a while at least.) The process of the two bars in Figure 2 shrinking is well on its way. The US might be further ahead with deleveraging in the private sector. The balance sheets of large US corporations are full of cash—held mostly abroad, for obvious reasons. However, much of the problematic debt has just been transferred to the government's balance sheet.

One way to shrink the bar on the right is via inflation. Judging by common perception, this does not seem to be an immediate risk. A current fact, not a risk, is financial repression. The bar on the right in Figure 2 is shrinking via manipulated negative real yields. The last column in Table 1 below shows real three-month yields. In many jurisdiction's real yields are negative. This means the population's wealth is slowly and steadily expropriated. It means that the bars in Figure 2 are shrinking in real terms. It means that the average investor is losing, i.e., is getting poorer. The investor is having his pension plans (and planned pensions) eroded; taken away.

"Watching the eurozone countries trying to resolve their debt crisis has been like watching 17 people in oven gloves manipulating a Rubrik's cube."
—*John Lichfield[1]*

"Prolonged periods of negative real rates never end well but it is too soon to sound any alarm bells but at the first hint of inflation, this party comes to an end."
—*David Rosenberg[2]*

Table 1: Nominal interest rates versus real interest rates (27 September 2013)

	Nominal 3M rates (%)	CPI YoY (%)	Real 3M rates (%)
United States	0.01	1.5	-1.49
Canada	1.28	1.1	0.18
Eurozone	0.22	1.3	-1.08
Germany	0.22	1.4	-1.18
France	0.22	0.9	-0.68
Italy	0.22	1.2	-0.98
Switzerland	-0.04	0.0	-0.04
Australia	2.59	2.4	0.19
Japan	0.03	0.9	-0.87
Singapore	0.31	2.0	-1.69
Hong Kong	0.37	4.5	-4.13
South Korea	2.53	1.3	1.23

Source: IR&M, Bloomberg

Whether real yields are negative via inflation (e.g., 8% yields with 10% inflation) or deflation and financial repression (e.g., 0% yield with 2% inflation) doesn't really matter that much. Capital compounds negatively at the inappropriately named risk-free rate in both cases. Figure 3 shows _real_ 10-year government bond yields for the United States and Japan.
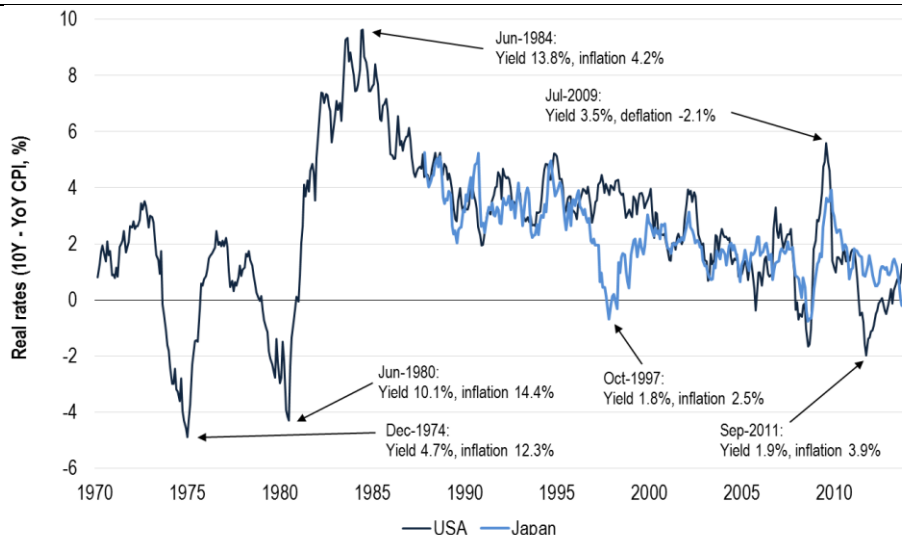
Capital can compound negatively at the inappropriately named risk-free rate of return

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[1] "Saving Europe will leave Britain on the edges, but the alternative is grim," *The Independent*, 5 November 2011

[2] Breakfast with Dave, Gluskin Sheff, 7 March 2013

Figure 3: Real 10-year government bond yields in the United States and Japan (1970 – September 2013)

Source: IR&M, Bloomberg

A further important aspect of low interest rates is duration risk. If rates are very low, close to zero, they can stay low or rise. The short end of the yield curve cannot fall any further. Holding long-term government bonds, therefore, could become a very asymmetric investment. However, it's the wrong asymmetry: little upside with big downside potential. The other way around, big upside with little downside, is more attractive. The indebted authorities of the industrialised economies want institutional investors to hold government bonds. Equity-unfriendly regulation is one bad step. Many European (life) insurance companies for example have an allocation to equities that is less than five percent. Further steps are nationalisation or forced government bond allocations.

The wrong asymmetry: little upside, big downside

Figure 4 shows a further phenomenon of the current critical state of super suppressed yield curves and financial repression. The chart shows the time it takes to recover from a 15% loss in years.

Figure 4: Time to recover from a 15% loss
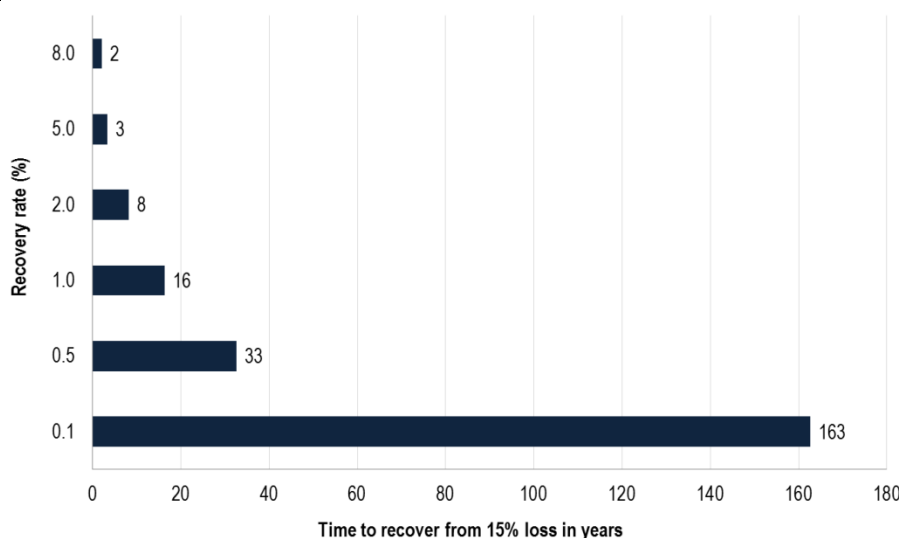
Source: IR&M

The lower the yield, the longer it takes to recover from a certain loss. This means investor's portfolios are particularly sensitive to losses as it could potentially take quite long to recover from a large drawdown.

Practical relevance

Negative consequences from authorities mismanaging their fiscal affairs do not show up immediately. However, most often they do show up eventually. The economic destiny of Zimbabwe, Venezuela and France are three cases in point in terms of political and economic malpractice; albeit the malpractice varying in tenor and degree of business and investor unfriendly behaviour by the authorities. (Figure 5 shows where France stands structurally when compared to some of its peers.) In the short-term, failed authorities can blame everything on personal greed, profit-hungry banks and corporations and the private sector; and many do. As economist Thomas Sowell put it:

> The first lesson of economics is scarcity: There is never enough of anything to fully satisfy all those who want it.
> The first lesson of politics is to disregard the first lesson of economics. When politicians discover some group that is being vocal about not having as much as they want, the "solution" is to give them more. Where do politicians get this "more"? They rob Peter to pay Paul.
> After a while, of course, they discover that Peter doesn't have enough. Bursting with compassion, politicians rush to the rescue. Needless to say, they do not admit that robbing Peter to pay Paul was a dumb idea in the first place. On the contrary, they now rob Tom, Dick, and Harry to help Peter.[1]

This activity causes a negative feedback loop that feeds on itself. However, at one stage Herbert Stein's Law applies. While "the signs on the wall" are reasonably clear; the timing of a collapse or the negative feedback loop hitting rock-bottom is not. A cautious and conservative stance towards economies should be the response of the prudent investor when dealing with governmental malpractice, capital unfriendliness, corruption, repression, and the resultant misallocation of capital.

"The first lesson of economics is scarcity… The first lesson of politics is to disregard the first lesson of economics."
—*Thomas Sowell, American economist*

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[1] Sowell (1993)

Figure 5: Overview of some structural factors (selected countries, end of September 2013)

Country	Region	GDP, $bn (BB)	GDP, real, yoy (BB)	Unempl. % (BB)	CPI % (BB)	Misery Index % (IR&M)	Fertility rate, kids/w (CIA)	Rate nominal, % (BB)	Rate real, % (IR&M)	BoP, % GDP (BB)	Trade, % GDP (BB)	Budget, % GDP (BB)	Debt, public, % GDP (HF)	Debt, external, % GDP (CIA)	Property rights, (HF)	Corrupt. (CPI), (TI)	Tax burden, (HF)	Govt. expend., (HF)	Business freedom, (HF)	Global competit. Index (WEF)	Avrg. rank (IR&M)
Columns used for ranking:			✓	✓	✓	✓	✓		✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	
Singapore	Asia	0.3	3.8	2.7	2.0	4.7	0.79	0.03	-1.97	4.3	-6.2	9.5	101	9	90	87	14	17	97	2	1
Hong Kong	Asia	0.3	3.3	3.3	4.5	7.8	1.11	0.50	-4.00	-0.1	-1.3	2.7	34	343	90	77	15	19	99	7	2
Switzerland	Europe	0.6	2.5	3.0	0.0	3.0	1.53	0.00	0.00	3.6	0.3	1.3	49	213	90	86	30	35	76	1	3
Australia	Asia	1.5	2.6	5.8	2.4	8.2	1.77	2.50	0.10	-0.6	0.0	-0.7	23	96	90	85	21	35	96	21	4
Taiwan	Asia	0.4	2.5	4.3	-0.8	3.5	1.11	1.88	2.67	3.9	3.6	-0.1	41	36	70	61	8	22	94	12	5
Norway	Europe	0.5	0.4	2.6	3.2	5.8	1.77	1.50	-1.70	3.0	1.0	14.5	50	129	90	85	43	45	93	11	6
Sweden	Europe	0.5	0.1	7.3	0.1	7.4	1.67	1.00	0.90	1.4	0.1	-0.5	37	193	90	88	46	51	93	6	7
South Korea	Asia	1.1	2.3	3.0	1.3	4.3	1.24	2.50	1.20	0.5	7.7	2.1	34	39	70	56	25	30	94	25	8
Germany	Europe	3.4	0.5	6.1	1.4	7.5	1.42	0.50	-0.90	0.6	0.6	0.2	82	165	90	79	36	46	92	4	9
Finland	Europe	0.3	-1.1	7.1	1.2	8.3	1.73	0.50	-0.70	-0.1	-0.2	-1.9	49	231	90	90	42	54	95	3	10
China	Asia	8.2	7.5	4.1	2.6	6.7	1.55	6.00	3.40	1.2	0.3	-1.1	26	9	20	39	18	24	48	29	11
Netherlands	Europe	0.8	-1.7	8.1	2.8	10.9	1.78	0.50	-2.30	2.4	0.6	-3.9	66	344	90	84	38	50	83	8	12
United Kingdom	Europe	2.4	1.3	4.2	2.7	6.9	1.90	0.50	-2.20	-0.9	-0.2	-6.3	82	404	90	74	35	49	94	10	13
United States	Americas	15.7	1.6	7.3	1.5	8.8	2.06	0.25	-1.25	-0.6	-0.2	-4.3	103	107	85	73	25	42	91	5	13
Canada	Americas	1.8	0.9	7.1	1.1	8.2	1.59	1.00	-0.10	-0.8	0.0	-2.1	85	65	90	84	31	43	92	14	15
Indonesia	Asia	0.9	5.8	5.9	8.8	14.7	2.20	7.25	-1.54	-1.1	-6.1	-1.1	25	21	30	32	12	19	50	38	16
Mexico	Americas	1.2	1.5	4.8	3.5	8.2	2.25	3.75	0.29	-0.5	0.0	-5.1	44	18	50	34	10	26	81	55	17
Turkey	Europe	0.8	4.4	8.8	8.2	17.0	2.10	4.50	-3.67	-0.7	-1.2	-1.3	39	42	50	49	26	34	68	44	18
Brazil	Americas	2.3	3.3	5.3	6.1	11.4	1.81	9.00	2.91	-0.2	0.1	3.0	66	18	50	43	33	39	53	56	19
Japan	Asia	6.0	1.2	3.9	0.9	4.8	1.39	0.10	-0.80	0.1	-0.2	-8.0	230	46	80	74	29	43	81	9	20
Russia	Europe	2.0	1.2	5.2	6.5	11.7	1.61	8.25	1.75	0.3	2.2	3.3	10	23	25	28	27	39	69	64	21
India	Asia	1.8	5.0	9.9	10.9	20.8	2.55	6.50	-4.35	-1.0	13.0	-5.9	68	21	50	36	7	27	37	60	22
France	Europe	2.6	0.4	10.5	0.9	11.4	2.08	0.50	-0.40	-0.2	-0.3	-4.8	86	216	80	71	43	56	84	23	23
Belgium	Europe	0.5	0.0	8.9	0.9	9.8	1.65	0.50	-0.39	-0.4	0.6	-3.9	99	289	80	75	44	53	92	17	24
Spain	Europe	1.3	-1.6	26.3	0.3	26.6	1.48	0.50	0.20	0.3	-0.1	-10.6	68	170	70	65	32	44	80	35	25
Portugal	Europe	0.2	-2.1	16.4	0.2	16.6	1.51	0.50	0.30	0.3	-0.6	-6.4	107	258	70	63	31	49	83	51	26
Italy	Europe	2.0	-2.1	12.0	1.2	13.2	1.41	0.50	-0.70	0.4	0.4	-3.0	120	122	50	42	43	50	77	49	27
Greece	Europe	0.2	-5.5	27.1	-1.3	25.8	1.41	0.50	1.80	1.5	1.1	-10.0	161	234	40	36	31	50	77	91	28
Eurozone	Europe	12.2	-0.5	12.1	1.3	13.4	1.58	0.50	-0.80	2.2	0.2	-3.7	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Source: IR&M, Bloomberg (BB), Heritage Foundation (HF), Central Intelligence Agency's World Factbook (CIA), Transparency International (TI), World Economic Forum (WEF). Notes: Misery Index: Unemployment rate + inflation (CPI), BoP: Balance of payments, External debt: total public and private debt owed to non-residents repayable in internationally accepted currencies, goods, or services, CPI: Corruption Perceptions Index. The rank shows the ranking of the average ranking of the ticked columns.

Pop quiz:

Who is most likely to benefit from all the governmental upsizing?

a. the savvy investor
b. the legal profession
c. the investment banks
d. the populace

Multiple answers are possible.

Peak population

Demographics affects everything. Many societies in the industrialised world are aging. "Peak population" is a pun on "peak oil," the idea that oil production reaches a point in time when the maximum rate of petroleum extraction is reached, after which the rate of production is expected to enter terminal decline. World population too could reach a peak from which it declines. The world's total fertility rate ("TFR") was around 5.0 in the 1950s, fell to around 3.0 in the 1990s and currently stands around 2.5 and is still falling. (Stable population is associated with a TFR of around 2.1 at which level the living grown-ups are replaced.) Figure 6 shows an estimate of the fertility rate for a selection of countries with the world, United States, European Union and Japan highlighted. The United States is demographically healthy when compared to most other industrialised economies and when judged solely by the TFR.

"Every advance in the complexity of the economy puts an added premium upon superior ability, and intensifies the concentration of wealth, responsibility, and political power."
—Will Durant[1]

Demographics affects everything

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[1] Durant, Will & Ariel (2010) "The Lessons of History," New York: Simon & Schuster, originally published 1968.

Figure 6: Fertility rate (2013, selected countries)
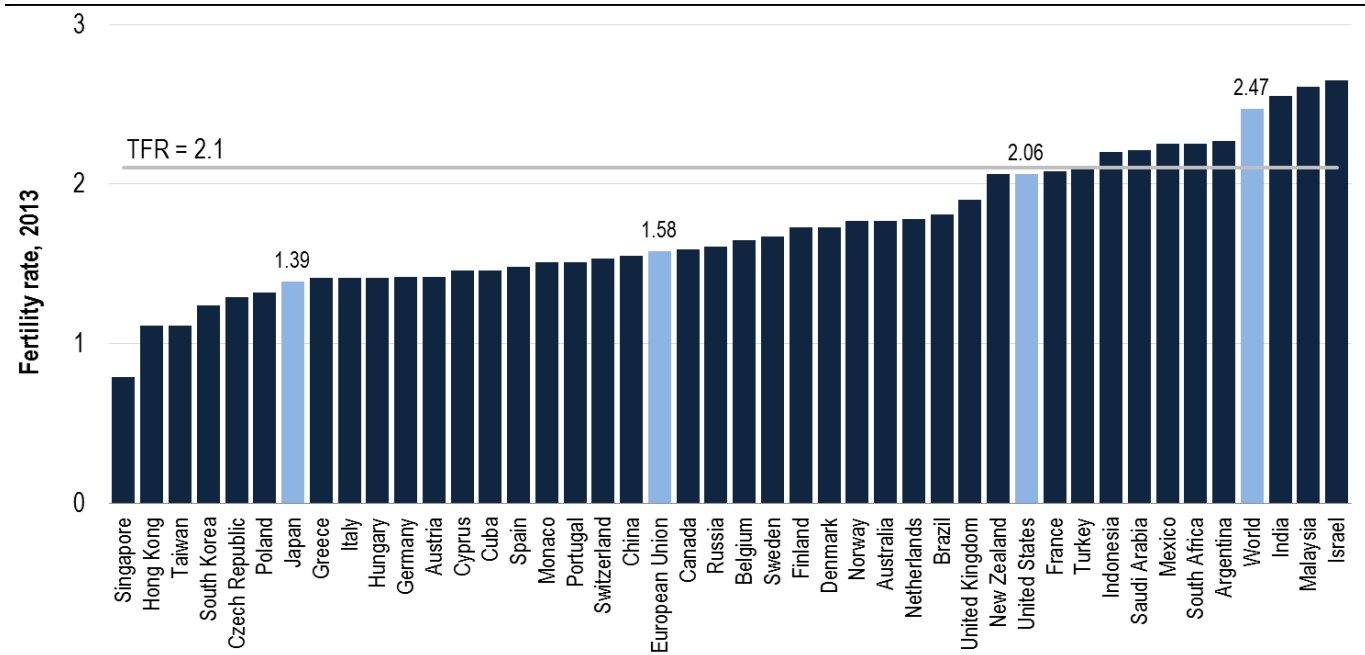
Source: IR&M, CIA World Factbook

Figure 7 shows estimated peaks. In Japan it's not an estimate. Population peaked in 2010. Houses are being demolished as there is no in-migration. Apparently there are villages where the elderly have not heard babies crying for years. Anecdotally, sales of nappies for grown-ups have exceeded those of babies.

Figure 7: Peak Population
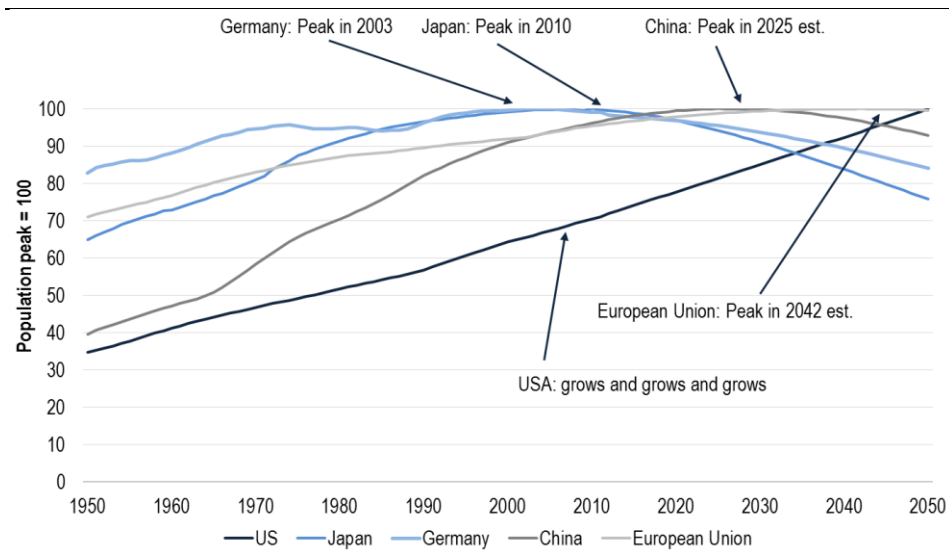
Source: IR&M, raw data and projections from OECD

The causality between economic growth and population growth is an obvious one: Fewer people produce fewer goods and services given a certain level of productivity, consumption and saving. The stock market in Japan could have predicted dire demographics and the economy that goes with it. The 20+-year equity bear market in Japan could be just an early indicator of things to come for other economies with falling populations. The idea of the equity risk premium, i.e., the idea that equities outperform bonds in the long-term, could be a measurement error. Decade long bull markets in equities could be regime specific; this means it

"In all affairs it's a healthy thing now and then to hang a question mark on the things you have long taken for granted."
—*Bertrand Russell*

could be a phenomenon that is characteristic for an economy where population is rising. Since stock markets exist in the industrialised world, populations have been rising. No more. The populations in Germany and Japan are falling. The relationship between equities and interest rates and bonds and everything in a different regime could be a different one altogether.

The population trend in Japan is down. Something quite extraordinary needs to happen for this trend to reverse. The rate of change has been negative throughout the two lost decades and there is of course causality between changing demographics and (sup-par) economic growth. One question that arises from this is whether Japan's society is in perpetual decline and whether Europe is just a decade or two behind. Note that the US has a fertility rate of 2.1 births per woman which is the rate that, ceteris paribus, keeps population stable. The double whammy of an aging and declining population is therefore more likely to apply to Europe than it is to the US. Healthy demographics—as in the US—arguably look much different in Figure 7 than unhealthy demographics. (Box 1 on page 14 is IR&M's pragmatic suggestion in relation to pension funding and longevity risk.)

The US is not only a magnet for capital of all sorts; its demographics are healthy too

Value investors have been pointing out for years that the Japanese stock market is cheap. However, it has been cheap for years. Many stocks have been trading below book value for years. If there are no buyers, share prices do not rise, irrespective of their valuation. Buyers are required for prices to rise. So the whole idea of the equity risk premium and the idea that shares always go up in the long term could be regime specific, as mentioned, i.e., a function of a growing population. Declining and aging populations, potentially, could have an appetite for bonds, rather than stocks. Some ideas based on long-held beliefs might not work anymore if the regime—brought upon us through demographics or regulation or anything else—changes in a material way. As Keynes asked rhetorically:

There are no bull markets without buyers.

When circumstances change, I change my view. What do you do?[1]

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[1] Note that there is a dispute as to whether Keynes actually said that and that there are many variations in circulation. Economist Paul Samuelson said something along these lines in a 1970 interview when questioned about changes he made from one edition of his famous economics textbook to the next. (From quoteinvestigator.com)

Practical relevance

The practical relevance for investors is that at a certain level it is always different. This means, assessing risk of investment opportunities must be an active approach, not a passive one. In a world that is changing, it does not make much sense to invest in a fashion that worked well in the past. What worked in the past could be regime-specific. As the regime changes, so do the opportunities and the strategies and approaches to unlock value and survive whatever stress the markets put upon us. Flexibility trumps dogma.

"In the arena of wealth management, there is no room for dogma."
—David Rosenberg[1]

Box 1: How to finance pensions for the long term

Many societies have in their pension legislation a retirement at of 65 or a figure very close to 65. Where does this number originate?

We believe today's pension idea can be traced to Otto von Bismarck (1815-1898) who in 1881 recommended to the then emperor, Wilhelm the Great (1797-1888), to introduce worker friendly laws to protect workers from illness, accident, disability and old age. The "Old age and disability insurance bill" (Gesetz zur Alters- und Invaliditätsversicherung) was passed on 24 May 1889 and became law on 1 January 1891. The scheme was funded by taxing workers and was designed to provide a pension for workers who reached the age of 70 and had contributed for 30 years. Life expectancy then was around 40-45 years. The contribution was 1.7% and was shared equally between employer and employee. Ideologically the idea of saving *during* work-years for *after* work-years goes back even further, at least as far back to Frederick the Great (1712-1786) who in 1775 created a scheme for old age and widows. Some cooperative arrangements of a similar nature of some guilds can even be traced back to the Middle Ages.

In the midst of WWI, probably with the prospect of ever reaching 70 being rather slim, Kaiser Wilhelm II reduced the retirement age from 70 to 65 in 1916. And there it is to this day—nearly 100 years later—with new-born life expectancy around 80.

The gap between life expectancy and retirement age of 65 therefore was around -15 years in 1916, assuming life expectancy of 50. Today this gap is closer to +15 years, i.e. a difference of 30 years. One possible solution to funding issues is to restore the old gap of -15 years, i.e., increase retirement age to 95.

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[1] Breakfast with Dave, Gluskin Sheff, 9 February 2012

Repressionomics and Murphy's Law

Mark Boleat, Chairman of The City of London, said in relation to the summer Olympics in London:

> *Everything that could have gone wrong, didn't.*[2]

This quote is obviously a witty reference to Murphy's Law:

> *Anything that can possibly go wrong, does.*

In relation to the current financial landscape, occasionally referred to as *Repressionomics*, there is potentially a third variation:

> *Anything that can possibly go wrong, will eventually but it may take a while.*

How does Murphy's Law or the modified Murphy's Law above apply to the current market environment of Repressionomics? It has to do with bonds. Here some related facts/remarks:

■ Bonds are widely perceived as less risky than equities, mainly due to academia saying so. The argument is that bonds have, generalising a bit, lower volatility than equities. Since volatility is the metric for risk chosen by modern portfolio theory, bonds are less risky.

■ Regulators like bonds, as do national and supra-national accounting committees. They need to go with the scholarly consensus; what else?

■ Last of all, and most importantly, allocations by institutional investors are high, not low. Many bond markets in developed economies had a really really good 30-year run, hence the high allocation.

Newsletter writer Dennis Gartman likes to refer colloquially to something that has risen a lot as having moved "from the lower left hand corner to the upper right" in a chart. Bonds are a good example, as Figure 8 shows. Bonds, quite literally, have been going from the lower left hand corner to the upper right hand corner in the graph. This is true in nominal as well as real terms. The Barclays US Aggregate has compounded at a rate of 8.3% per year since 1980 which compares to 3.4% for official US consumer price inflation.

"My true adversary does not have a name, a face, or a party. He never puts forward his candidacy but nevertheless he governs. My true adversary is the world of finance."
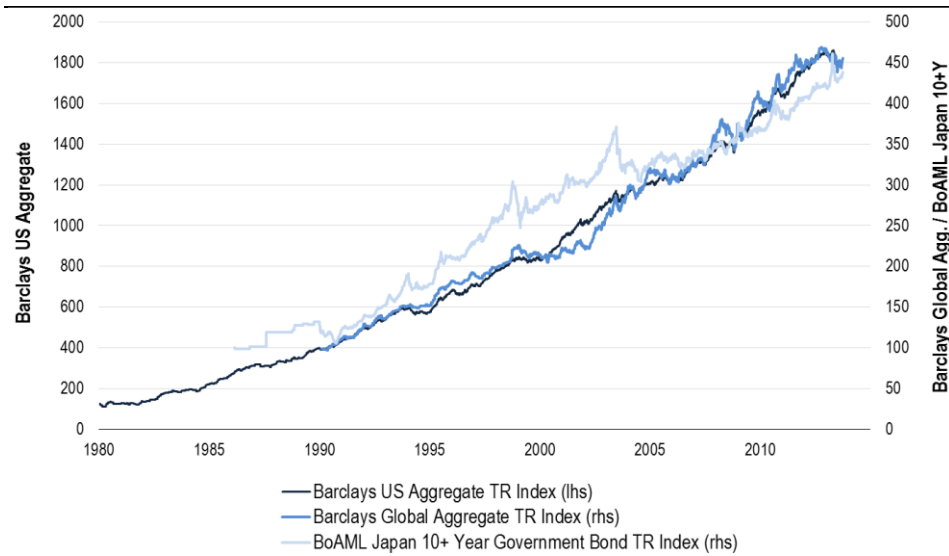*—François Hollande*[1]

"A random market movement causing the average investor to mistake himself for a financial genius."
—Alternative definition of a bull market

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[1] "Hollande hits at his 'true adversary'," *Financial Times*, 22 January 2012

[2] AIMA's Annual Conference, Guildhall, London, 20 September 2012

Figure 8: Bonds (inception – 27 September 2013)

Source: IR&M, Bloomberg

With institutional bond allocations historically so high, the one thing that should not happen is a strong rise in yields. The relevance to modified Murphy's Law is that it will eventually happen, it just might take a while. A whole new negative feedback loop could be in the making. If rates rise, the government's interest payments rise, trust and confidence erodes, default probability rises, rates rise further, etc.; all the while many regulatory regimes treating government bonds as risk-free. The "when" is the trillion dollar question; or, in Japan, the quadrillion Yen question. Kyle Bass, an investment manager, on debt levels in Japan:

> Japan has more than one quadrillion JPY on-balance sheet debt. A quadrillion is a one with 15 zeros... If you were ever to count to a quadrillion and every number takes you one second, it will take 31 million years... There is no chance the Japanese can ever repay their debts. Plain and simple.[1]

Figure 9 shows the yield curve of five major currencies in relation to its 10-year range, recent history and inflation.
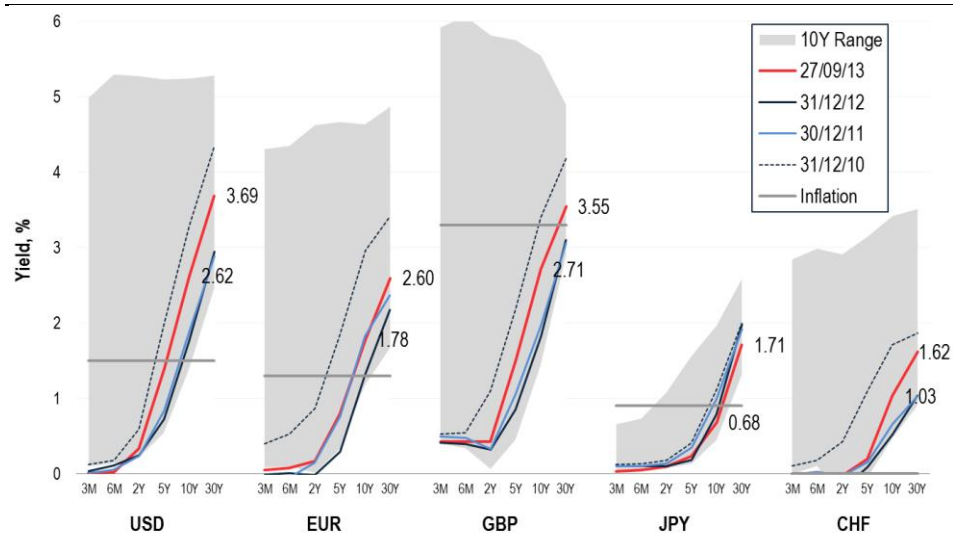
"Never have investors reached so high in price for so low a return. Never have investors stooped so low for so much risk."
—Bill Gross, @Pimco, 14 May 2013

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[1] Kyle Bass, AmerCatalyst 2012, keynote speech, 1 October 2012

Figure 9: Yield curves (27 September 2013)

Source: IR&M, Bloomberg
Note: Numbers in graph stand for 10-year and 30-year yields. Short end of CHF yield curve "disappears" because yields are negative.

Yield curves have been very low and have been rising within the last year. The practical relevance is that the larger the difference between inflation and nominal yields, the more extreme and quicker is the saver expropriated. (At a real rate of -8% it takes a bit more than eight years to half ones wealth in real terms.) The GBP yield curve is nearly fully under water, i.e., real yields are negative for nearly all maturities. Negative real yields are probably the most elegant, politically pragmatic way to reduce debt.
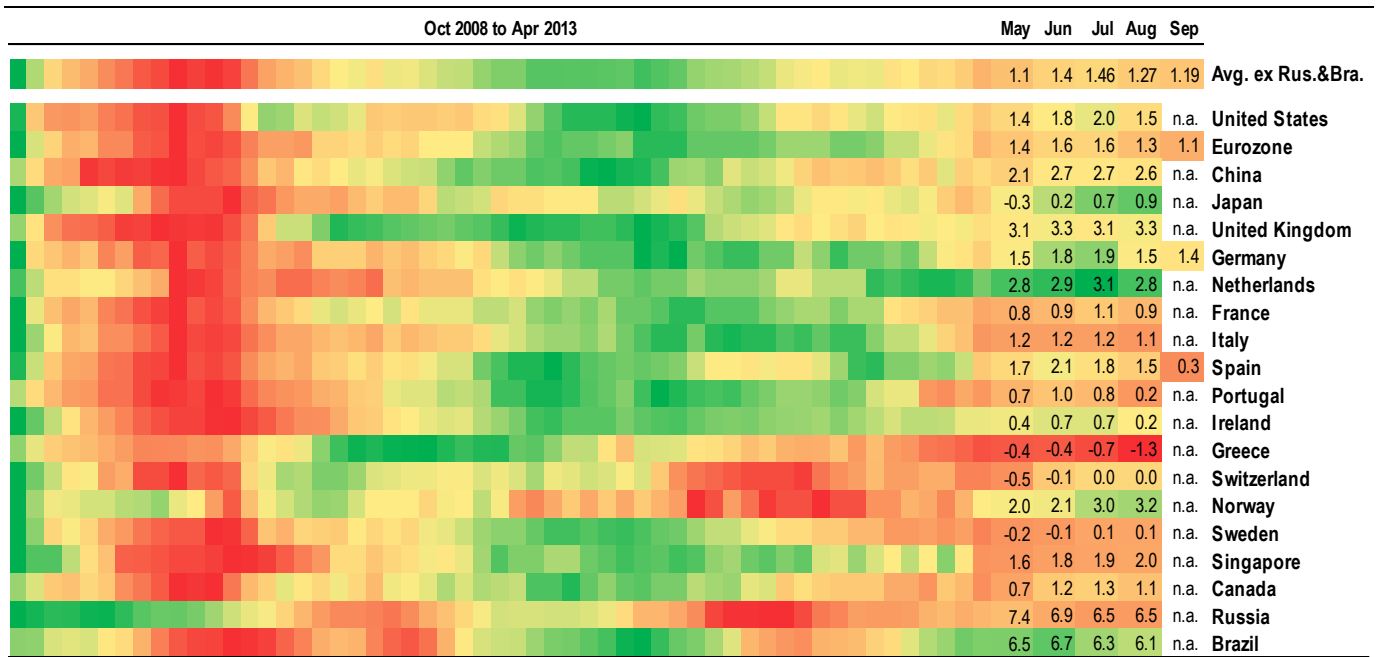
Figure 10 shows official consumer price inflation for a selection of countries from October 2008 to September 2013. Deflation is highlighted red while inflation—which increased rapidly on central bankers' wish list just recently—is green. The first row measures an average excluding Russia and Brazil. This average has been steadily rising from April to July and levelled off a bit in August and September. Investors ought to keep an eye on this.

"It's really crazy. They want me to pay for the electricity I take from my own solar panels. It's amazing."
—Ricard Jornet, entrepreneur, on one of the finer points of Repressionomics[1]

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[1] "Renewables: A rising power," *Financial Times*, 8 August 2013

Figure 10: Consumer price inflation (selected countries)

Oct 2008 to Apr 2013	May	Jun	Jul	Aug	Sep	
	1.1	1.4	1.46	1.27	1.19	**Avg. ex Rus.&Bra.**
	1.4	1.8	2.0	1.5	n.a.	**United States**
	1.4	1.6	1.6	1.3	1.1	**Eurozone**
	2.1	2.7	2.7	2.6	n.a.	**China**
	-0.3	0.2	0.7	0.9	n.a.	**Japan**
	3.1	3.3	3.1	3.3	n.a.	**United Kingdom**
	1.5	1.8	1.9	1.5	1.4	**Germany**
	2.8	2.9	3.1	2.8	n.a.	**Netherlands**
	0.8	0.9	1.1	0.9	n.a.	**France**
	1.2	1.2	1.2	1.1	n.a.	**Italy**
	1.7	2.1	1.8	1.5	0.3	**Spain**
	0.7	1.0	0.8	0.2	n.a.	**Portugal**
	0.4	0.7	0.7	0.2	n.a.	**Ireland**
	-0.4	-0.4	-0.7	-1.3	n.a.	**Greece**
	-0.5	-0.1	0.0	0.0	n.a.	**Switzerland**
	2.0	2.1	3.0	3.2	n.a.	**Norway**
	-0.2	-0.1	0.1	0.1	n.a.	**Sweden**
	1.6	1.8	1.9	2.0	n.a.	**Singapore**
	0.7	1.2	1.3	1.1	n.a.	**Canada**
	7.4	6.9	6.5	6.5	n.a.	**Russia**
	6.5	6.7	6.3	6.1	n.a.	**Brazil**

Source: IR&M, Bloomberg. Based on official yoy CPI, except UK, which is based on RPI (Retail Price Index). Average is equally weighted excluding Russia and Brazil; a 0.32 change is one standard deviation.

Inflation is one catalyst for nominal yields to rise, the loss of trust is another.

System integrity and trust

We are now in a sovereign crisis. A couple of years ago it was a banks crisis. The problems have moved on; a lot of the debt didn't just disappear in thin air; it moved from the private sector to the public sector. The pin that pricked the bubble in the banking crisis was a collapse of trust. When banks didn't trust each other, the game was over. Now, when sovereigns stop trusting each other, the game is over. Asmussen's "we do not trust you," therefore is quite a statement. It is probably not a coincident that the German Bundesbankers in Frankfurt want their gold back from Fort Knox and the vaults in Paris. It is an indication that trust is not rising. The Asmussen quote is only an anecdote. However, tensions between societies start small and build up over time. Tensions start with animosities and it is anecdotes such as this one that reveal that there is something bubbling under the surface; the political correct veneer that enwraps our public representatives.

Figure 11 shows the Corruption Perceptions Index ("CPI") of the largest thirty economies as a crude proxy for trustworthiness. The main takeaway from the chart is that there is variation. Potentially the chart not only serves as a proxy for the ease or hassle of doing business in the various economies but also as a proxy for geo-political roughness; the two concepts being interlinked of course. The animosities, of which the *we-don't-trust-you* anecdotes are indications, are a fact and a challenge to investors. It goes without saying that this form of risk is not revealed by quantitative, regulatory-approved techniques such as VaR. This calls for an active as well as a specialist-savvy, intelligence-driven approach.

"Because we do not trust you."
—Joerg Asmussen, the debuty German finance minister's response to the question "Why don't you let us handle this?" to a senior commission official trying to persuade Mr. Asmussen to let Brussels run the stabilization fund[1]

"A good forecaster is not smarter than everyone else, he merely has his ignorance better organised."
—Anonymous

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[1] "Currency Union Teetering, 'Mr. Euro' Is Forced to Act," *Wall Street Journal Online*, 26 September 2010

Figure 11: Corruption Perceptions Index (2012)
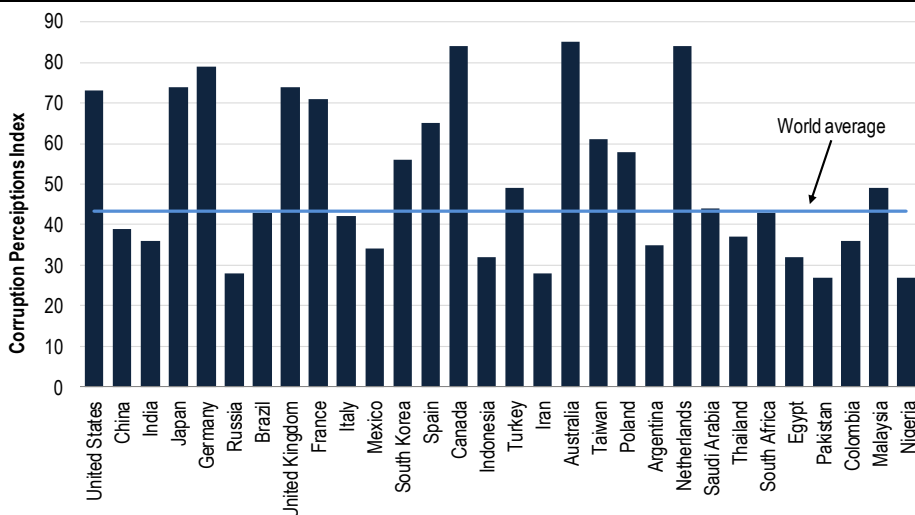
Source: IR&M, Transparency International
Note: CPI is shown for 30 largest economies, measured and sorted by 2012 GDP (PPP). World average is based on 176 countries. A low index level is associated with high perceived corruption.

A further aspect related to trust and repression is the various short selling bans. Short selling bans, forbidding the holding of gold, nationalising private pensions, etc. are forms of repression. The forbidden tools might change over time but the idea of repressing the savvy saver remains the same. During the financial crises various regulators banned the short selling of stocks. In the more recent past, it was credit derivatives that were subject to a repressive ban. In Europe for example, the massive fall of sovereign credit spreads was a result of many managers covering their hedging and speculative positions ahead of a November 2012 deadline. Optically this looked as if the European currency crises and debt problems in the periphery were easing. The issues were not solved though. The repressive intervention just postponed the unpleasant market adjustment into the future.

"In some ways, it's a battle of the politicians against the markets… I'm determined to win. The speculators are our adversaries."
—*Angela Merkel[1]*

Practical relevance

The bottom line is that the current political regime doesn't trust the markets. It is fair to say that the distrust is mutual. Central aspects of the economy, paper money, capital raising, trade, interest rates, depend on trust in one form or another. We like to use the term "going Venezuela" for an economy that does all the wrong things over and over again, thereby letting the structural deficits grow. France is a case in point: raising taxes, lowering pension age, increasing government, killing private initiative, chasing away capital, displaying reform-ignorance, etc. The practical relevance for investors is that they know there is a breaking point. Again, Herbert Stein's Law applies. However, the increasing divergence between one's economic assessment on one hand, and regulatory requirements on the other, is not easing the challenge of the contemporary institutional investor. The regulatory regime and accounting practice requires a large bond allocation; a history-oriented, common-sense approach might suggest no unhedged sovereign risk at all.

"The jug goes to the well until it breaks."
—*Proverb*

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[1] "Merkel takes 'battle' to markets as lawmakers ready to vote on Greek aid," *Bloomberg*, 6 May 2010

Bond portfolios can fall too

Yields can rise for a long time. This means of course that bonds can compound negatively (nominally as well as in real terms) for a long time. Bonds can spend a long time under water. Figure 12 shows the underwater perspective of a proxy for US Treasuries as well as US equities.

Figure 12: US equities and bonds under water in real terms (Jan 1900 – Aug 2013)
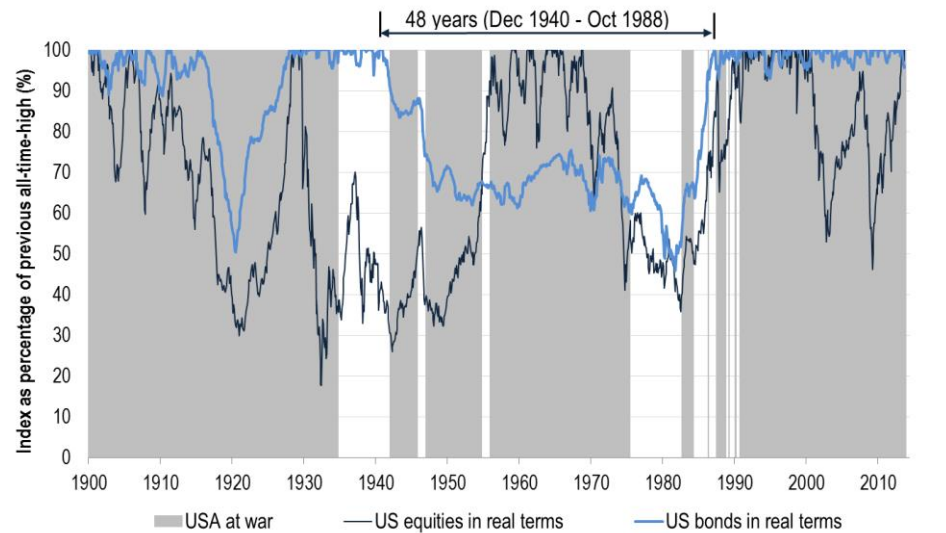
Source: IR&M, Global Financial Data, Bloomberg, war dates from Wikipedia

When risk for an asset class is defined as "potential years under water in real terms", i.e., the longevity of capital compounding negatively, bonds are more risky than equities. The drawdowns in equities are more violent and the recovery more swift, both contributing to a higher standard deviation of returns, i.e., volatility. Bond/credit cycles are longer than equity/business cycles. What is most important and most relevant to the practitioner is that the 48-year episode in Figure 12 is outside of the living memory of the contemporary investor or regulator.

The United States was at war in roughly 80% of the time since 1900 when the cold war and some minor conflicts are ignored. War is the rule, not the exception. History is a constant struggle between freedom and repression. Pax Americana and its allies, with differing contributions, have fought for the former and against the latter. Perhaps it's one of the ironies of history that Western civilisation is now becoming repressive on its own citizens and those who were formerly repressive are opening up. It seems that Russia and China are done with social experiments whereas the United States have just began. Ms Merkel—an Ossi—knows. She has seen it with her own eyes and knows that it doesn't work. Many leaders of industrialised economies haven't and don't.

"Man seems to insist on ignoring the lessons available from history."
—Norman Borlaug (1914-2009), American agronomist and the father of the Green Revolution[1]

"We witnessed in the GDR and in the entire socialist system that an economy which was no longer competitive was denying people prosperity and ultimately leading to great instability."
—Angela Merkel[2]

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[1] Nobel Lecture, 11 December 1970

[2] "Merkel hints at need to cap social spending," *Financial Times*, 17 December 2012

A further aspect is related to correlation. Both equities and bonds can both compound negatively simultaneously for a long time. Both equities and bonds are valued on the basis of discounting future cash flows to today. When nominal yields rise, the present value of those cash flows falls. The period of disinflation and falling interest rates was good for both. The opposite, whatever that might be, is not. It is not surprising, therefore, that more and more investors want real assets. They want out. They want something outside of the whole financial system where the authorities are becoming more and more interventionist, intrusive and repressive. Trust in the system has been lost, or—to soften this argument a bit—is eroding. This changes everything. Both, investors as well as financial intermediaries need to adapt to survive.

When examining bonds in Figure 12, it is not necessarily obvious that the past 25+ years are in any way representative for the long term. Looking at the chart, it seems the past two or three decades seem actually rather an exception than the rule. When thinking about bonds and correlation between equities and bonds, it is possible that the past 25+ years were one single regime with certain characteristics. It essentially was a *credit bubble* (or, if not a bubble, massive credit expansion) causing *asset price hyperinflation*. Whatever it's called, if this idea has any merit, then a different regime may have entirely different characteristics. It is possible that a regime awaits us, where no allocation to government bonds of sovereigns in the industrialised economies is the course of action of the wise investor. This would be quite the opposite of the *risk parity* idea in which one essentially levers up on bonds just because volatility happens to be lower than equities.

Practical relevance

Excessive debt and interest payments of many countries' economies will force them to look at savers money with renewed interest. And what better place to get the money where it currently resides: institutional investors, namely pension funds and insurers. These institutions are the safekeeper of the forced savings of the populace. They hold large allocations of government bonds. They have to. Interestingly, in many cases, they also want to.

> **"It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is most adaptable to change."**
> —*Unknown[1]*

> **"Financial history is generally a succession of sovereign debt crises."**
> —*Niall Ferguson[2]*

> **"I could end the deficit in 5 minutes. You just pass a law that says that anytime there is a deficit of more than 3% of GDP all sitting members of congress are ineligible for re-election."**
> —*Warren Buffett[3]*

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[1] Often erroneously attributed to Charles Darwin. The earliest known appearance of this basic statement is a paraphrase of Darwin in the writings of Leon C. Megginson, a management sociologist at Louisiana State University. Megginson's paraphrase (with slight variations) was later turned into a quotation. (From wikiquote.com)

[2] Ferguson, Niall (2010) "History in the Making: Lessons and Legacies of the Financial Crisis," CFA Institute, September.

[3] Interview with Becky Quick, *CNBC*, 7 July 2011

The ALM time bomb and the reality kick

Institutional investors' current affinity with liability benchmarks has a very strong resemblance with investors hugging asset benchmarks towards the end of the prolonged equity bull market at the end of the 1990s. The period of disinflation of the 1980s and mainly the 1990s together with some other factors gave rise to the cult of equities. Reforms and a changed perception allowed some investors larger allocations to equities, essentially to take more risk. The common wisdom prior and at the peak was that "equities are for the long-run" and that they outperform bonds in the long run. As long-term investor, one could therefore have a large equity allocation because one could sit through large drawdowns. Many non-English-speaking Continental European institutional investors, for example, started to move away from their traditional bond-heavy portfolios and piled into equities close to the peak. So when we hear more and more institutional investors claiming that asset-liability management, ALM for short, is the pinnacle of institutional investor's wisdom; it somehow has a *déja vu* ring to it. We've seen an institutional infatuation with benchmarks before. (And, somewhat akin to *musical chairs*, it can be embarrassing for slowpokes.)

Let's assume for a moment that wealth or capital preservation is one of the key aspects of the whole asset management profession, potentially elucidated by the following two pieces of financial wisdom.

> *"Diversification should be the cornerstone of any investment program."*
> —Sir John Templeton[1]

> *"The first rule of investment is don't lose. And the second rule of investment is don't forget the first rule. And that's all the rules there are."*
> —Warren Buffett quoting Benjamin Graham[2]

In the following we discuss diversification and capital preservation. The aim is practical relevance rather than scientific rectitude.

Diversification

The diversification idea is based on the premise that we don't know the future. If we knew that wind farms would yield the best 10-year point return, there would be no need for caring about risk or diversification. Diversification is for those who know what they don't know. All other investors either don't know what they don't know or caught some dogma bug from which the only cure is substantial losses. "Learning by doing" is an important adage in risk management and experience a cruel and expensive teacher.

> **"You cannot make a man by standing a sheep on its hind legs. But by standing a flock of sheep in that position you can make a crowd of men."**
> —*Max Beerbohm (1872-1956), English essayist*

> **"If science is defined by its ability to forecast the future, the failure of much of the economics profession to see the crisis coming should be a cause of great concern."**
> —*George Akerlof and Joseph Stiglitz[3]*

---

[1] This is probably a paraphrase of an original statement: "Diversification should be the corner stone of your investment program. If you have your wealth in one company, unexpected troubles may cause a serious loss; but if you own the stocks of 12 companies in different industries, the one which turns out badly will probably be offset by some other which turns out better than expected." July 1949. (From whatwouldjohntempletonsay.com)

[2] It is unclear whether origin is from Ben Graham. Buffett in "The Forbes Four Hundred Billionaires, October 27, 1986: "Rule No. 1: Never lose money. Rule No. 2: Never forget Rule No. 1."

[3] "Let a hundred theories bloom," Commentary, Budapest, 26 October 2009

The idea of diversification is very old.[2] Supposedly, it's the only free lunch. The idea has entered the English language as "don't put all your eggs in one basket." It has entered investment management orthodoxy via Harry Markowitz and modern portfolio theory (MPT). The idea of spreading risk by diversifying risk is much older than MPT though. The Oxford Dictionary traces the "eggs in the basket" idea to 1710, referencing an Italian source of proverbs from 1662. The idea of diversifying risk can be traced even further. The Talmud suggests:

> *Let every man divide his money into three parts, and invest a third in land, a third in business, and a third let him keep in reserve.[3]*

This makes it somewhat difficult to date the origin of the idea of diversification by spreading the risks. Suffice to say, the idea of diversifying risk could be thousands of years old, potentially as old as civilisation itself; or if not, at least as old as men going about their business affairs.[5] The funny thing about the Talmud quote above is that it suggests both a "margin of safety" as well as equal weighting. Equal weighting is not yet a trend in investment management but it has been discussed in some journals for a while now. The main argument for equal weighting is that we just know far too little about future returns, future volatilities, and future correlations for mean-variance optimization to have any value. Furthermore, the assumptions behind MPT are onerous and impractical; onerous because the input variables for many viable investments are not available; impractical because most of the assumptions behind MPT have turned out to be false, misleading, or dangerous, or a combination thereof.

In the model-world of MPT, combining equities and bonds makes perfect sense because the correlation coefficient is less than one. (Except when it really matters of course; in a major panic and sell-off, for example.) However, strong beliefs in a model can be dangerous, as various blow-ups as well as the most recent banking crises have demonstrated. Long-only investments in equities and bonds (and bills or cash) can move more or less in tandem over extended periods of time. More precisely, in times of inflation equities and bonds decline in tandem while in times of disinflation equities and bonds rise in tandem. It is wiser; we believe, to seek additional alternatives and/or operate in an "asymmetric returns" fashion.[7] This means allocations should be a function of the opportunity set, rather than a combination of statistical variables entered into a faulty econometric supposed-optimizer.

"Given that I'm never sure, I don't want to have any concentrated bets."
—*Ray Dalio, investment manager[1]*

"We spend so much time, resources and money trying to see the future. Really, we're spending money to delude ourselves. You have no chance of seeing the future. It's better to recognize that."
—*Hugh Hendry, investment manager[4]*

"Armed with complicated modelling techniques, increasingly powerful computers, and reams of historical market data, a growing number of investors have become entranced with the dream of scientific rectitude. Few recognize, however, that such modelling assumes constancy in market fundamentals."
—*Henry Kaufman[6]*

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[1] "Mastering the machine – How Ray Dalio built the world's richest and strangest hedge fund," *The New Yorker*, 25 July 2011

[2] The antithesis to diversification is portfolio concentration, as Warren Buffett—apparently—once put it: "Diversification is a protection against ignorance. It makes very little sense to those who know what they are doing." (The origin of this quote was difficult to source and, as one article suggested, is most likely taken out of context.)

[3] Swedroe, Larry E., and Jared Kizer (2008) "The only guide to alternative investments you'll ever need," New York: Bloomberg Press.

[4] Interview with Steven Drobney at LSE, 31 October 2011, from contraryinvesting.com

[5] The concept of diversification is of course much older. The biosphere for example has been diverse for billions of years. Diversity is life's ultimate survival mechanism. Every now and then there is mass extinction on this planet with the more complex life forms being wiped out. The biosphere regenerates for surviving simple life to evolve into something more complex. And then there is mass extinction again. The parallel to the wealth of nations is clearly recognisable.

[6] The Recurring Irresponsible Financial Behavior, Remarks delivered before the Carnegie Council, New York City, 20 June 2011, printed in The Gloom, Boom & Doom Report, Marc Faber, 1 November 2011.

[7] See Ineichen (2007) or earlier work.

In the institutionalisation of the equity market there were pioneers, early adaptors, and late-comers. The pioneers are typically a small group. For reasons that are beyond the scope of this document, it was the English-speaking economies that developed an equity culture of some sort very early on. In the US the idea of investing 60% of assets into equities while 40% into bonds held for many years, decades even. In inflation-prone UK the equivalent allocations were closer to 70% and 30%. A high equity allocation was the right choice, as the authorities were pursuing continuous competitiveness boosts via currency weakness.[1] An institutional equity culture in Continental Europe developed in the 1990s whereas equity allocations—generally speaking—never reached the "English-speaking" levels of 60% or 70%. Some (governmental or government-sponsored) entities literally started allocating to equities within a couple of months from the 2000 peak. (Investment life can be quite brutal; resembling to some extent a game of *musical chairs*: someone is always left without a chair. The late Baroness Thatcher was probably on to something in the side text; when—applying this piece of *Thatcherism* to finance—everyone agrees on something, it's probably too late.)

The institutionalisation of hedge funds for example was similar. The institutional pioneers invested in the 1990s; early adaptors around 2000-2002; and then the institutionalisation of the hedge fund industry took off. Figure 13 shows rolling five-year returns for an average hedge fund portfolio, US equities and US bonds. The institutionalisation of hedge funds took place during a time where nearly any diversified portfolio of hedge funds had outperformed equities or a 60/40 equity/bond mix on a rolling five year basis. (There is probably no institutionalisation without good past performance.)

Figure 13: Nominal five-year returns of hedge funds, equities and bonds (1980 – August 2013)
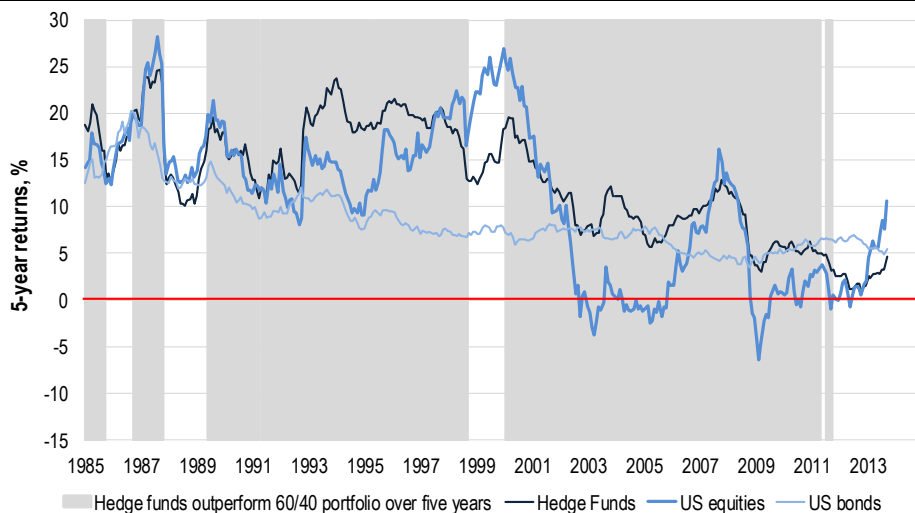
Source: IR&M, Banque Privée Edmond de Rothschild, Bloomberg
Hedge funds: Leveraged Capital Holdings from Banque Privée Edmond de Rothschild until December 1989, then HFRI Fund Weighted Composite Index; Equities: Russell 3000 TR Index; Bonds: Barclays US Aggregate TR Index.

The main selling points were "absolute returns," or "alpha," or the hedge-funds-can-make-money-in-all-market-conditions argument. Investing in hedge funds had become a fashionable consensus. Note that the five-year return for the average hedge fund has been lower than the five-year return for a 60/40 equities-bond

> **"Nothing is more obstinate than a fashionable consensus."**
> —*Margaret Thatcher (1925-2013)*

> **"What the wise man does in the beginning, the fool does in the end".**
> —*Anonymous*

> **"Everybody lives by selling something."**
> —*Robert Louis Stevenson (1850-94), Scottish author*

[1] The GBP lost 86% of its value against the CHF—a proxy for a strong currency strategy—since 1971. The USD lost much less, it devalued by only 78% over the 40+ years.

portfolio since mid-2011. Since the end of 2012, any combination of equities and bonds outperformed hedge funds thanks to various asset inflation friendly interventions by the various central planning authorities around the world. Whether the artificial, international orchestrated wealth effect will last forever, thereby making risk management and hedge funds obsolete, is arguably doubtful.

Potentially the idea of *risk parity* is becoming is becoming the next Thatcherite 'fashionable consensus'. Risk parity is a strategy where the allocations to various asset classes are not equal but the allocations are determined by the risk of the various asset classes. If risk is defined as volatility, an asset allocation of 50:50 between equities and bonds can result in a risk allocation of 90:10. This means moving from traditional asset allocation towards risk allocation (or risk parity), generally speaking, results in a smaller allocation to equities.

> **"A good decision is based on knowledge and not on numbers."**
> —*Plato*

Replacing a quantitative optimization which is based on an impractical measure for risk with another quantitative optimization which is based on the same impractical measure for risk is, well, impractical. Given that the current regulatory trend is equity-unfriendly, and government bond-friendly, the advent of a new extended equity bull market—potentially—is exactly then, when the equity allocations have been reduced to multi-generational lows.

> **"No matter how cynical you get, it is impossible to keep up."**
> —*Lily Tomlin, American actress and comedian*

The practical relevance is that there are institutional investors who are not diversified. The belief is that they don't need to. The belief is that bonds, long-term bonds in particular, are the perfect match for their liabilities. These investors are in synch with current regulatory regime but not with what Sir John Templeton thinks is the cornerstone of every investment program.

Capital preservation

When risk is managed relative to a benchmark, there is an implicit indifference to absolute losses. If a benchmark falls by say 20% and assets fall in unison, from the perspective of the tracking risk manager, nothing is lost. The current infatuation with ALM and liability benchmarking and the subsequent high bond allocations potentially mean that some investors are out of synch with the two "rules" on diversification and capital preservation mentioned above. There is an implicit indifference to potential losses. When interest rise and bonds fall, the liabilities will fall too. So all is well. The risk management department, therefore, is managing tracking risk, like in equities 10+ years ago.

> **"Those who do not learn from history are doomed to repeat its mistakes."**
> —*George Santayana (1863-1952), Spanish-American philosopher*[1]

There is a reality kick out there. There are two statements that we occasionally hear from institutional investors that we interpret as warnings signs that history is just about to repeat. 1. An institutional investor stating after explaining his approach that he never would manage his own money like that. In the case of ALM, this happened more than once. 2. The idea of holding a bond to maturity in the case of sharp declines in bond prices, thereby ignoring rising default probability.

> **"You can avoid reality, but you cannot avoid the consequences of avoiding reality."**
> —*Ayn Rand (1905-1982), Russian-American novelist and philosopher*[2]

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[1] The Life of Reason, Volume 1, 1905

[2] According to one source, Ayn Rand never said this verbatim. It's a good quote nevertheless; certainly applicable to the current investment challenges.

Figure 14 shows the S&P 500 Index with the peak of the relative returns and tracking risk paradigm circled. When equities were falling, the absolute returns revolution kicked in. History could rhyme once again.

Figure 14: S&P 500 Index
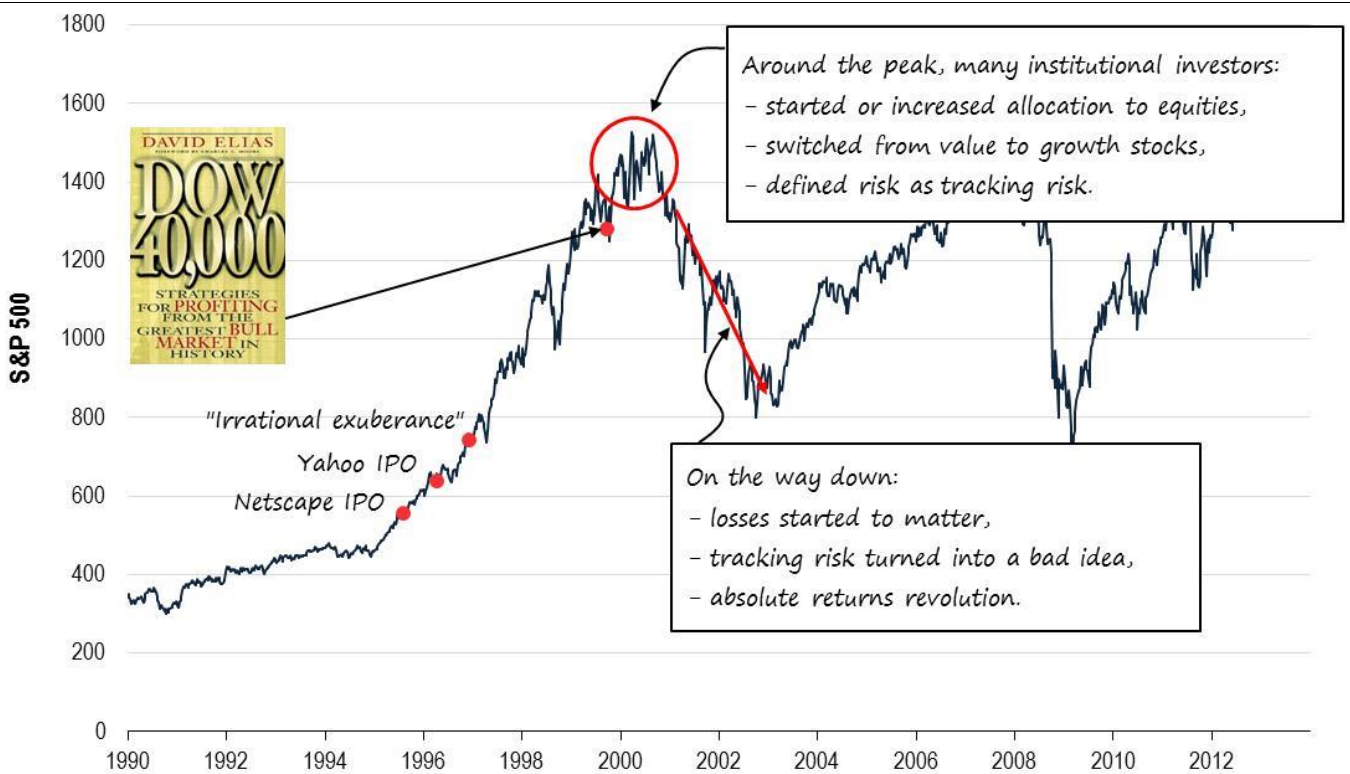
Source: IR&M, Bloomberg, book publishing date from amazon.com
Note: "irrational exuberance" refers to Alan Greenspan's speech on 5 December 1996.

At the peak, perceptions are different than at the trough. Calling an active mandate in equities with a tracking error constraint of 1-2% against the benchmark was perfectly normal at the peak of the equity bull market. Calling for 40,000 in the Dow captured the spirit. Managing risk from an absolute returns perspective was not even a thought among many long-only asset managers and their consultants and clientele. However, this changed as share prices started to fall. The assumed indifference to absolute losses slowly but steadily turned out to be ill-advised. It is this reality kick that put hedge funds on the agenda of many institutional investors. (Note that the pioneers and early adaptors invested *prior* to equities falling. It is therefore interesting to observe that some institutional investors, mainly in North America, have already started to diversify their bond exposures some time ago.)

Related to ALM, this reality kick has not yet materialised. The reason is that the ALM crowd has actually done rather well up until a couple of months ago. So when they argue that they are indifferent to absolute losses it actually makes perfect sense to them. After all, when interest rates rise in earnest and bonds fall, so do liabilities. Assets and liabilities are in synch. Risk is defined as tracking risk, i.e., risk is perceived as asset moving out of synch with their liabilities. This is of course the same as the tracking risk dogma in equities twelve years ago. There is the perception that there is no need for diversification or capital preservation. Some investors have to spend so much time on compliance and accounting issues,

"Either you deal with what is the reality, or you can be sure the reality is going to deal with you."
—*Alex Haley (1921-1992), American writer and co-author of 'The Autobiography of Malcolm X'*

"Men, it has been well said, think in herds; it will be seen that they go mad in herds while they recover their senses slowly and one by one."
—*Charles MacKay (1812-1888), Scottish author*

that, potentially, they do not have adequate capacity to spend time thinking about long term investments.

Bonds have been in a 30-year bull market and one bond expert after another is now calling its end. Bonds are expensive. Figure 15 shows pricing of equities, bonds and cash for the US as a proxy for the industrialised economies. Equities valuation is based on the trailing earnings yield (reverse of the PE ratio), bonds on the 10-year Treasury yield and cash on the Fed's fund rate. The first six groups of bars show the valuation metric in January of the decade while the bars on the right show the current valuation. The higher the yield; the cheaper is the asset class. (With a yield of 10% it takes only a decade to get ones money back, with a yield of 1% it takes a century. This is a tricky concept, of course. It assumes there are no taxes and expropriation. A yield of 1% in Switzerland (strong currency, low taxes, lean government, and history of sound private property rights) is potentially "cheaper" than a 2.5% yield in France (weak currency, high taxes, big government, and history of nationalising private assets).)

If an asset class is priced cheaply and something goes wrong, the asset class gets even cheaper and potentially becomes an opportunity. If an asset class is priced expensively and something goes wrong, hell breaks loose.

Figure 15: Valuation (January 1960 – 3 September 2013)
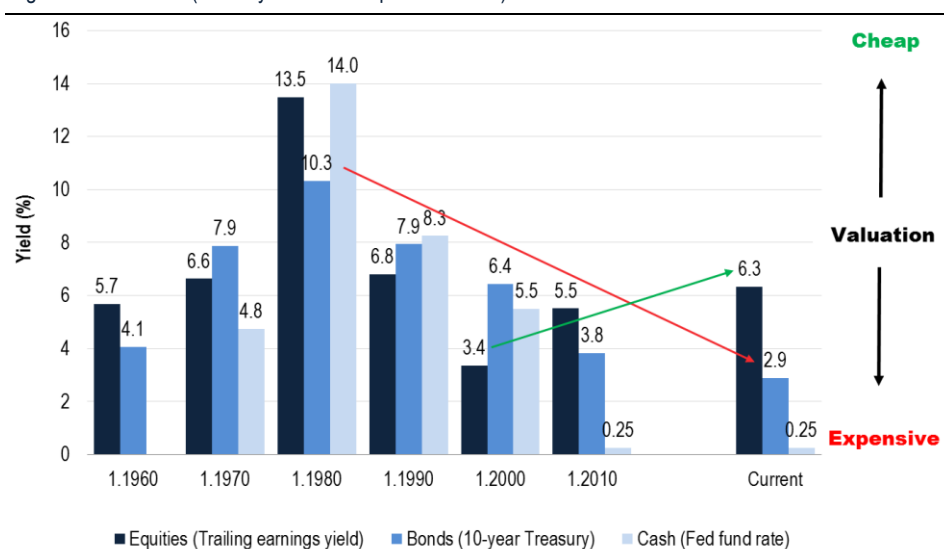
Source: IR&M, Bloomberg
Notes: The bars measure the valuation at the beginning of the decade (except "current"). 10Y Treasury starts 1.1.1962 at 4.06%. Fed fund rates starts 1.1.1971 at 4.75%.

■ Bonds, represented here by yield of the US 10-year Treasury, have become expensive since the early 1980s, yields falling from double digits in the 1980s to below one percent in 2012.

■ Equities went the other way, being expensive at 3.4% trailing earnings yield in January 2000 to being cheap compared to government as well as corporate bonds. (The size of the bars measure cheapness in absolute terms while the difference between bar size measures cheapness in relative terms. In relative terms, equities have been extremely cheap because bonds and cash were so expensive. The next chart shows this graphically.)

■ With the short end of the yield curve being very low or negative in real terms, cash is very expensive as financial repression is essentially a wealth transfer from the risk-averse saver or rentier to the debtor; or governmental-theft, depending on ones' propensity to articulate economic phenomena.

Figure 16 shows the "PE ratio" for equities and bonds since 1970.

Figure 16: Valuation equities and bonds (1970 – August 2013)
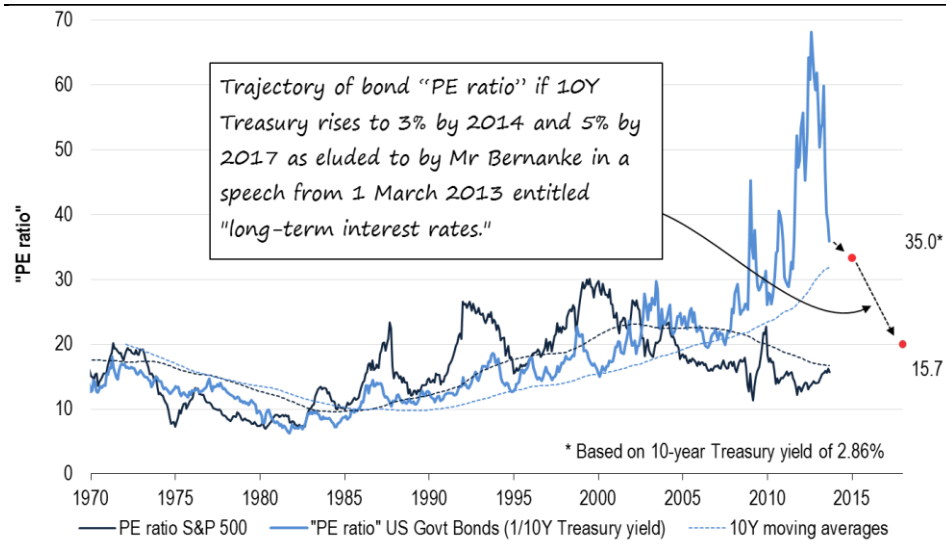
Source: IR&M, Bloomberg
Notes: Based on trailing PE ratio and inverse 10-year Treasury yield.

■   Former President of Harvard Derek Bok was once quoted saying: "If you think
    education is expensive, try ignorance." When examining Figure 16 one is
    tempted to argue: "If you think equities were overpriced in 2000, try bonds
    now."

An additional aspect not yet mentioned is related to committee-based investment
decision making. Most institutional investment committees are comprised of
individuals with different backgrounds. Not all of them are familiar with finance
and economics in general and the history of stock and bond markets in particular.
Those with knowledge dominate the investment process, especially when all goes
well. Those with less knowledge have nothing much to add other than agree and
nod approvingly with the bellwether. Any criticism is easily put down by referring
to favourable past performance. However, when equities started to fall in the early
2000s the investment committee dynamics started to change. Suddenly the
equities-outperform-bonds-in-the-long-term mantra had a different feel to it. The
equity-defending bellwethers in the committee had their wings clipped. The
laypeople in the committee started to question the logic of having such a high
allocation to equities. Doubting equities was nearly impossible when they were
rising, but was made easier when falling. Was tracking risk really all that mattered?
Real absolute losses changed the game. Committee meetings turned less jovial
when faced with losses. Suddenly underfunding and fund solvency were agenda
items. The investment committee dynamics were different when share prices were
free-falling than when they were rising irrational exuberantly.

"A fool with a tool is still a fool."
—*Saying*

The practical relevance is that history rhymes. This time it is not an infatuation with
equities but with long-term bonds including government bonds. The regulator and
accounting ruling boards are partly to blame. Next to politics and central banking,
they play a role in Repressionomics. It is they who apply current dogma in finance
unquestioned and set the guidelines. The ALM phenomenon is essentially, or
partly, a function of the general legal and regulatory framework; hence the
perception of rationality on part of the asset liability benchmarker. The bottom line

**"The United States has 5% of the
world's population, 25% of its
incarcerated people, and almost
50% of the world's lawyers."**
—*Conrad Black, Canadian-born, SEC-
fined former newspaper publisher*[1]

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[1] "America Flunking Churchill's 'Test of Civilization'," *The Sun*, 4 October 2012

is that if Murphy's Law is applicable to finance, anything that can possibly go wrong, will eventually but it may take a while.

One aspect beyond the scope of this report is an ethical one: Rational decision making under uncertainty and asset allocation is one thing. Another is whether the *Prudent Person Rule* supports financing political profligacy, supports the participation in a government-sponsored pyramid scheme (certain aspects of health care and social security), and—what some might argue—unprecedented maladministration, misgovernment, and mismanagement of public funds.

"Modernity has replaced ethics with legalese, and the law can be gamed with a good lawyer."
—Nassim Taleb[1]

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[1] Nassim Nicholas Taleb (2012) "Antifragile – Things That Gain from Disorder," New York: Random House, p. 15.

Trust and the gentle art of getting votes

Pilger's Law and repression

"Pilger's law" is named after Australian born, two times Britain's Journalist of the Year Award winner John Pilger:

If it's been officially denied, then it's probably true.[1]

We can trace this piece of wisdom back to Preussian/German statesman Otto von Bismarck (1815-1898), who was quoted saying:

Never believe anything in politics until it has been officially denied.[2]

The late Margaret Thatcher also contributed to the idea/concept:

Being powerful is like being a lady. If you have to tell people you are, you aren't.

This piece of Thatcherism is applicable to integrity, trustfulness, credibility, creditworthiness, etc: If you have to tell people you are, you aren't. If a high ranking political authority says his country's bonds are not a short, it's a short. Remember George Papandreou in September 2011:

I can guarantee that Greece will live up to all its commitments.[4]

It didn't, of course. Contrast the above to the following:

There is nothing more foolish than talking about a deposits haircut.[5]

This was a statement by Michael Sarris, the then finance minister of Cyprus *ahead* of the expropriation. Luxembourg's PM Jean Claude Juncker confirmed Pilger's Law a couple of years ago. He was caught lying on camera. When defending himself, he said:

When it becomes serious, you have to lie.[6]

The practical investment relevance is that in a financially (and potentially politically) repressive investment environment, the roles of the politicians and other elected and unelected governmental officials is becoming more and more relevant in influencing market prices and trends. Spotting the lie is not just a profitable endeavour; it is as much a survival necessity.

Certain things should be obvious and the need to state the obvious suspect. Being powerful (or being a lady) shouldn't require one's highlighting. The same is true for being credible, or trustworthy, or being of high integrity, among other attributes. These are not things one should have to point out. They are given or deserved or earned and should be obvious. Credibility is earned, as is trust. So when governmental bureaucrats argue during market mayhem that the financial

> **"Politics is the gentle art of getting votes from the poor and campaign funds from the rich, by promising to protect each from the other."**
> —*Oscar Ameringer (1870-1943), American-German writer*

> **"The world does not have to lend you money. If they don't want to lend you money, an extra 10bps won't make a difference. It depends on people's willingness to lend you money which comes down to how other people feel about you. If you are dependent on borrowed money, you have to wake up every day worried about what world thinks of you."**
> —*Warren Buffett*[3]

> **"The lie is the basic building block of good manners."**
> —*Quentin Crisp (1908-1999), English writer*

> **"A lie can travel half way around the world while the truth is putting on its shoes."**
> —*Mark Twain*

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[1] "Pilger's law: 'If it's been officially denied, then it's probably true'," *The Independent*, 13 October 2008

[2] A nearly identical variant is attributed to left-leaning British journalist Claud Cockburn (1904-1981): "Never believe anything until it has been officially denied."

[3] Berkshire Hathaway Annual Meeting, 3 May 2008, Omaha, NE.

[4] "Split opens over Greek bail-out terms," *Financial Times*, 28 September 2011

[5] "Cyprus Finance Minister Rejects Talk of Bank Deposits Haircut under Bailout," *Wall Street Journal*, 1 March 2013

[6] "Luxembourg Lies on Secret Meeting," *Wall Street Journal*, 9 May 2011

system is "solid" it means that it isn't. It's a politically motivated lie. The markets seek truth, politicians and governmental officials do not; at least not during market mayhem or election year; essentially when political capital is at risk (which—one could argue—is always). As markets have a tendency to overreact, the market's truth seeking procedure can be messy. The lying is supposed to improve the situation; which it sometimes does, in the short-term at least. (The consensus on short selling bans today for example is probably that it is contra-productive and a waste of every one's time.)

In November 2010, the Spanish Prime Minister José Luis Rodríguez Zapatero said that Spain was not a short. According to Bloomberg Mr Zapatero said in an interview with Barcelona-based broadcaster RAC1:

> *I should warn those investors who are short selling Spain that they are going to be wrong and will go against their own interests.*[1]

Well, Spain of course was a short. At the time, the unemployment rate was in the region of 20% and the Eurozone as well as all parts of the economy related to the real estate bubble (interest rates being too low for too long) including the cajas (savings banks) were falling apart. Russian officials did the same thing before they declared default on Ruble denominated debt in 1998, as did the Mexican authorities in 1994 before devaluing the Peso. When the market is voting with its feet and politicians or officials stand up and claim all is well in the world, it most often isn't. If everything is "solid" there is really no need to make a statement, is there? As Dennis Gartman once put it:

> *We have learned from history that when the financial leaders tell us that the situation is "solid," it is not; indeed it is anything but that. We have learned from history that when they tell us that the situation is "solid," it is about to crack wide open and become decidedly "un-".*[2]

The practical relevance is that Pilger's Law is becoming increasingly important in a repressive environment. Long periods of profligacy and subsequent high debt in combination with socio-economic experiments that went wrong (social security, free health care, the euro, etc.) resulted in the authorities having an agenda that can be detrimental to those with wealth. Figure 17 shows a comparison of two time axis whereby the 1929 crash was synchronised with the 2008 crash.

"For the bureaucrat, the world is a mere object to be manipulated by him."
—Karl Marx

"It's frightening to think that you might not know something, but more frightening to think that, by and large, the world is run by people who have faith that they know exactly what's going on."
—Amos Tversky (1937-1996), cognitive psychologist

"Politics is supposed to be the second oldest profession. I have come to realize that it bears a very close resemblance to the first."
*—Ronald Reagan (1911-2004)*

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[1] "Spain issues defiant warning to markets," *Financial Times*, 25 November 2010

[2] The Gartman Letter, 3 August 2011. This quote was in response to European Commission President Jose Manuel Barroso saying the surge in Italian and Spanish bond yields to 14 year highs did not reflect the true state of the economies, claiming the financial system was "solid".

Figure 17: Current environment compared to WWII
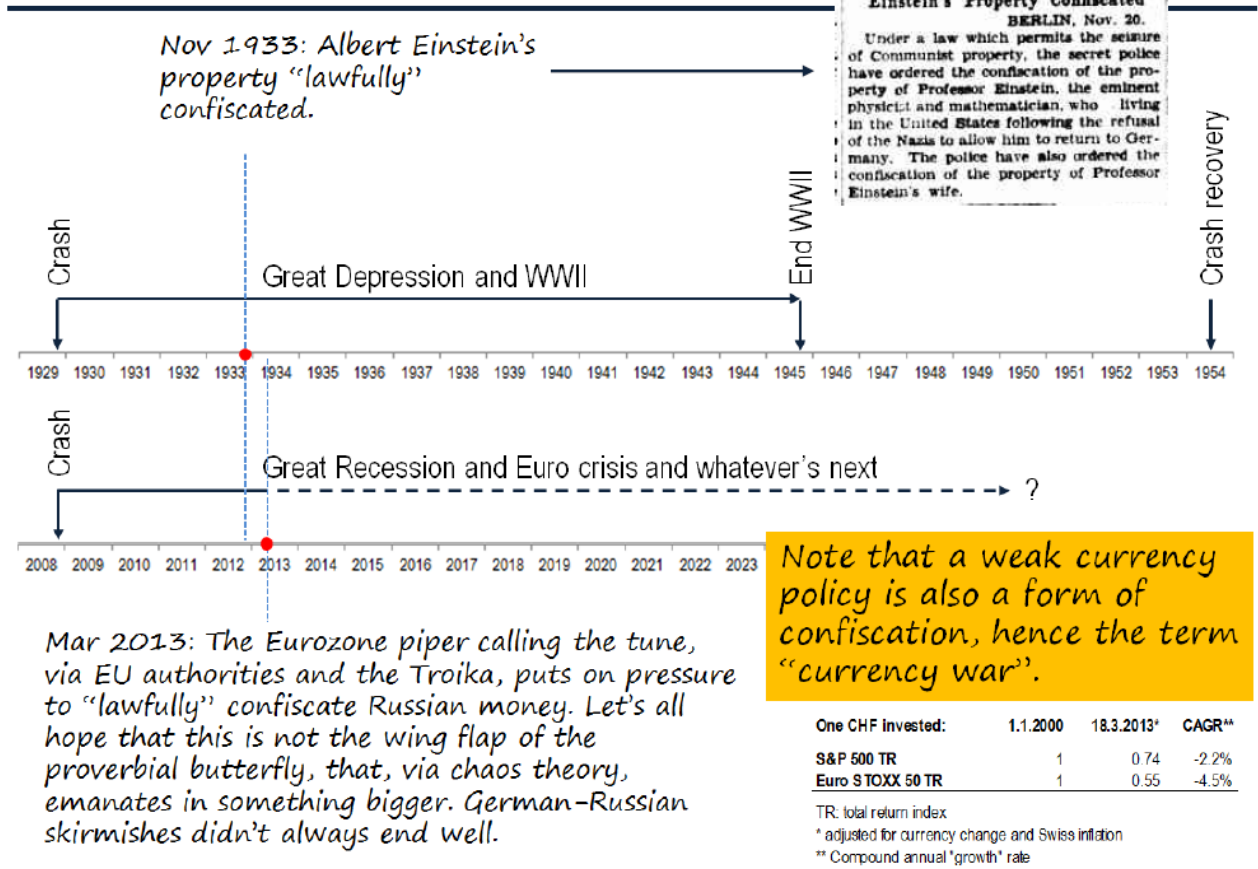
Source: IR&M risk management research update, 22 March 2013

When two time axis are normalised by the two crashes from 1929 and 2008, then the expropriation of Albert Einstein's wealth—anecdotally—more or less coincided with the expropriation in Cyprus. Both were "lawful" from the perspective of the authority in power. This means protecting ones wealth from confiscation becomes "unlawful". A benchmarked investor or money manager might not care. After all if the wealth is confiscated, the wealth represented in the benchmark is "confiscated" too. However, a prudent expert might actually care. The practical relevance is the potential conflict between doing what the authorities want and doing what is right.

"Such a decision, if it's adopted, will be unfair, unprofessional and dangerous."
—Vladimir Putin on proposed penalty on Cypriot bank deposits[1,2]

[1] "Putin Says Cyprus Bank-Deposit Levy Is Dangerous, Unfair," *Bloomberg*, 18 March 2013

[2] A Klingon proverb comes to mind: "Fool me once, shame on you. Fool me twice, prepare to die."

The Welfare State Bubble

What Keynes meant and what Keynesians did

The welfare state idea as we know it might be coming to an end. This could be disruptive for many years. The practical relevance is that the current investment landscape is repressive. The movement of capital has already started. It's not just a liquidity-turned-credit-turned-sovereign-crisis, unfortunately. Whether we call this the age of deleveraging, or great depression II, or Repressionomics doesn't really matter. What matters is that we do not know how bad it's going to get. We also don't know how long it takes. Figure 18 is just a hint that these things can last long and become progressively worse before they become better. The prudent and responsible expert needs to think about these things. Many investors agree that the ideas from the 1980s and 1990s do not work as well anymore. Figure 18 below is a take on what went wrong in the industrialised economies.

"Life in the system is hardly gold-plated, but it is comfortable enough."
—Melissa Devilma, welfare recipient on incentive not to seek work or education[1]

Figure 18: What went wrong in the West
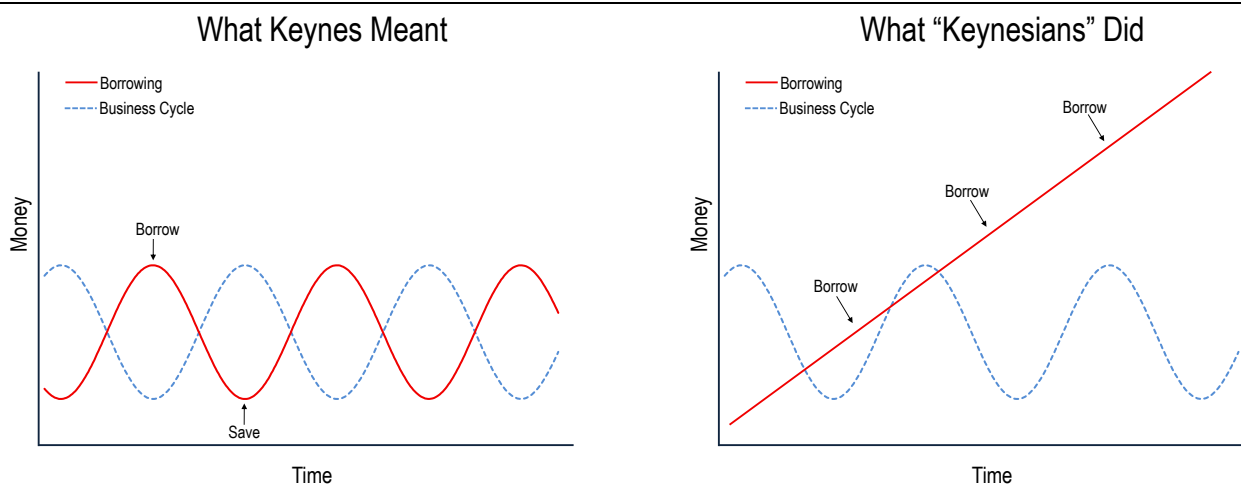
Source: Protégé Partners 4Q 2009 quarterly letter

Keynes idea was about counter-cyclical fiscal stimulus, i.e., boosting aggregate demand by expanding debt to weather the trough of the business cycle and correspondingly shrinking demand by retiring debt during the ensuing boom.[3] However, this latter point was sort of ignored. The West, supported intellectually by scholarly Keynesians, just kept on spending and now the West is arguably in a borrowing-frenzy related mess. There are many ways to reduce debt and take from those with wealth, inflation being probably the most politically palatable and elegant. However, inflation is not the topic of this document. History teaches us that there are other ways to get to the money.

"There can be few fields of human endeavor in which history counts for so little as in the world of finance."
—John Kenneth Galbraith[2]

Many investors have increased their allocation in real assets in this environment. Having a focus on cash flows and trying to disintermediate Wall Street had strong appeal directly after the 2008 financial crises and still has. However, if the real assets get nationalised the investor loses everything. Democracies have turned authoritarian (or totalitarian) in the past. This is not something to *worry* about; the notion is something to *think* about. (Well, depending on the reader's location, it

Real assets should do well in times of debt monetisation

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[1] "Taxing hard-up Americans at 95%," *The Economist*, 7 September 2013

[2] Galbraith, John Kenneth (1994) "A short history of financial euphoria," London: Penguin Books, p. 11.

[3] From Protégé Partners 4Q 2009 quarterly letter

might actually be something to worry about.) History teaches us that failed authorities—simplifying a bit—somehow get to the money.

Note that there is nothing wrong with the idea of a welfare state; it is the *welfare state bubble* that is of concern. Something went wrong. The welfare state idea, one can certainly argue, is a good one. It lifted large parts of various populations out of poverty. A developed society should clearly care about minimising suffering. However, the idea was taken too fare. At times it feels like socialism in a new wrapper; the "third way" being a marketing gimmick akin the "new economy" a couple of years ago. The practical relevance from an investor's perspective is that it is becoming apparent that the financing of this welfare state bubble is not working very well and authorities who have had their backs at the wall in the past did some really—how shall we put this—capital-unfriendly things.

Not the welfare state but the *welfare state bubble* is of great concern

Table 2 below shows the *social welfare function*. The social welfare function, proposed by Amartya Sen in 1973, is a measure of a society's overall welfare calculated as the product of GDP per capita and the difference between 1 and the society's Gini-coefficient. The Gini-coefficient is a measure between 0 and 1 with a low number indicating income is more equally—and in the minds of a vast majority therefore more fairly—distributed. The colour coding was applied to the whole sample of 133 countries where both indicator where available. The table was sorted by the social welfare function. The top ten countries were shown plus a selection of some other economies.

"We will have to cut benefits. We shall promote individual responsibility. And our guiding principle will be that we can only redistribute what we have earned." *—Gerhard Schröder, to the Bundestag, 14 March 2003[1]*

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[1] "Germany reformed its social model. Europe can, too," Josef Joffe, *Bloomberg News*, 17 April 2012

Table 2: Social welfare function, top 10 plus selection

Country	GDP per capita 2012		Gini		Social welfare function		Incarceration rate		Unemployment rate	
	USD	Rank	Coef.	Rank	USD	Rank	100k pop	Rank	%	Rank
Median	**9,775**		**39**		**5,242**		**129**		**8.0**	
Luxembourg	79,785	1	26	7	59,041	1	124	64	6.2	43
Norway	55,009	3	25	6	41,257	2	71	28	2.8	8
Switzerland	45,418	6	30	20	31,974	3	82	36	3.0	9
Sweden	41,191	12	23	1	31,717	4	67	24	7.2	50
Singapore	60,410	2	48	108	31,534	5	230	109	2.7	7
Austria	42,409	9	26	9	31,255	6	103	50	6.9	47
Australia	42,640	8	30	23	29,720	7	130	68	5.7	34
Netherlands	42,194	10	31	25	29,156	8	82	36	9.0	66
Canada	42,734	7	32	32	29,016	9	114	57	7.1	48
Germany	39,028	14	27	11	28,490	10	80	34	6.1	42
United States	49,922	5	45	93	27,457	14	716	133	7.3	53
France	35,548	21	33	34	23,924	18	101	49	10.5	76
Hong Kong	51,494	4	54	123	23,842	19	130	68	3.3	13
Japan	36,266	20	38	58	22,630	20	54	16	3.9	16
United Kingdom	36,941	18	40	74	22,165	21	148	77	4.3	20
Spain	30,557	24	32	30	20,779	23	149	78	26.3	101
Italy	30,136	25	32	29	20,523	24	108	53	12.0	83
South Korea	32,272	23	42	83	18,750	30	92	41	3.1	10
Greece	24,505	31	33	36	16,418	32	111	54	27.4	102
Portugal	23,385	33	39	64	14,382	35	134	71	16.4	96
Russia	17,709	42	42	82	10,324	41	484	131	5.3	29
Chile	18,419	38	52	119	8,823	48	270	113	5.7	34
Iran	13,127	54	45	89	7,285	56	284	117	11.5	79
Botswana	16,820	44	63	131	6,223	59	205	99	7.5	54
Brazil	11,875	57	52	117	5,712	63	274	114	5.6	32
China	9,162	69	47	105	4,819	73	170	89	4.1	17
Colombia	10,792	60	59	126	4,479	75	243	110	10.0	74
South Africa	11,375	59	63	132	4,197	78	289	120	25.6	100
India	3,830	95	37	55	2,421	92	30	4	9.9	71
Zimbabwe	559	133	50	111	279	133	129	67	70.0	117

Source: IR&M, Bloomberg, IMF, CIA, ICPS (International Centre for Prison Studies), Wikipedia, own calculations
Notes: GDP per capita is 2012, Gini coefficient is latest available, Incarceration rate is measured as prisoners per 100,000 of population. Sample size was 133 countries, except unemployment rate which was 118.

At the most simplistic level, right-of-centre political parties try to raise the first column in Table 2 while left-of-centre political parties try to lower the second column. Essentially, the former wants a bigger cake while the latter's aim is more equal slices. When examining the top 50 countries[2] based on the social welfare function, we find a negative correlation between the Gini-coefficient and the incarceration rate (correlation coefficient of 0.38), which we use here as a proxy for a ticking socio-economic time-bomb as well as a proxy for high criminal activity and thereby low quality of life for the middle and lower classes. (The upper classes do well everywhere, irrespective of the Gini-coefficient.) The more unjust a society, the larger the potential costs to society to fix things. Note that the unemployment rate is most strongly correlated with GDP per capita (correlation coefficient -0.24) and not with the social welfare function (-0.18): The higher GDP per capita, the lower is the unemployment rate. It seems the provocatively-coiffed Mayor of London was onto something in the side text.

"My position on cake is pro-having it, and pro-eating it."
—*Boris Johnson, Mayor of London*[1]

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[1] *The Week*, 1 December 2012, originally from *The Daily Telegraph*

[2] The quality of the data does not improve as we go down the list. Luxembourg and Zimbabwe (top and bottom of the list) having nearly the same incarceration rate seems odd.

According to one estimate, the present value of the US's liabilities including unfunded welfare promises is north of USD50 trillion. According to another estimate, apparently, more than 50% of the US population is *net* receiver of transfer payments. In Germany more than three quarters of the population benefit from a transfer payment in one form or another. The trend is clearly towards "more benefits". It is a system where one increasingly needs to find new funding to pay existing clients. When a privateer sets up such a system and gets caught—normally when the price of the new funding increases—he goes to prison; potentially for 150 years. Governments somehow can get away with it. The more markets revolt, the more aggressive the repressive action; some nationalisation and expropriation here and there, short-selling bans, import tariffs on gold, etc. could potentially be a prologue to something even less investor friendly as negative real government bond yields. As the Prime Minister of Luxembourg, Jean Claude Juncker, put it a couple of years ago (related to speculation on Greece):

> *Make no mistake: We have instruments of torture in the cellar, and we're going to show them, if necessary.[2]*

That was in 2010. Some of the "instruments of torture" have now been taken out of the cellar. The cost of borrowing senselessly has been increasing; hence the need for "instruments of torture" in the case of investors seeking safety elsewhere. There is a consensus that governments borrowing senselessly cannot continue forever; Herbert Stein's Law applies. As professor Joseph Stiglitz put it:

> *Economists agree this can't go on. We can borrow and borrow, but eventually there will be a day of reckoning.[3]*

Or Ludwig von Mises, essentially saying the same thing in the 1940s:

> *The wavelike movement affecting the economic system, the recurrence of periods of boom which are followed by periods of depression, is the unavoidable outcome of the attempts, repeated again and again, to lower the gross market rate of interest by means of credit expansion. There is no means of avoiding the final collapse of a boom brought about by credit expansion. The alternative is only whether the crisis should come sooner as a result of the voluntary abandonment of further credit expansion, or later as a final and total catastrophe of the currency system involved.[4]*

The West is already in a *liquidity trap* where cash is hoarded and monetary policy instruments were overused and are now largely ineffective. This essentially means more and more borrowing results in fewer and fewer options. As Richard Fischer, President of the Federal Reserve Dallas, put it in March 2011:

"I sincerely believe that banking establishments are more dangerous than standing armies, and that the principle of spending money to be paid by posterity, under the name of funding, is but swindling futurity on a large scale."
—Thomas Jefferson (1743-1826)[1]

"There are two ways to conquer and enslave a nation. One is by the sword. The other is by debt."
—John Adams (1735-1826), Founding Father and second US President

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[1] The second part of the quotation ("I believe that banking institutions are more dangerous to our liberties than standing armies...") may well be a paraphrase of a statement Jefferson made in a letter to John Taylor in 1816. He wrote, "And I sincerely believe, with you, that banking establishments are more dangerous than standing armies; and that the principle of spending money to be paid by posterity, under the name of funding, is but swindling futurity on a large scale." (From Thomas Jefferson Encyclopedia.)

[2] "Wir haben die Folterwerkzeuge im Keller," interview in *Handelsblatt*, 1 March 2010

[3] "The looming national benefit crisis," *USA Today*, 3 October 2004

[4] Von Mises (1996), p. 572.

Throughout history, feckless governments have dodged their fiscal responsibility by turning to their monetary authority to devalue the currency, monetize debt and inflate their way out of structural deficits.[1]

The practical relevance is that there are trade-offs and that different administrations will have different agendas, some being less investor-friendly than others.

In February 2012 Warren Buffett made the case that if the global gold stock of 170,000 metric tons were melted together to a cube it would measure 68 feet per side and fit on a baseball field. The value of this cube would be equal to all the US cropland, 16 Exxon Mobils, and USD1 trillion in cash. His argument was that the latter was superior to the former for cash flow reasons. This is of course true. However, if you own cropland, blue chip shares, and cash and private property is nationalised and the currency devalued, you have nothing. Whereas in the case of hiding some physical gold from the authorities, you still own some gold. The cash flow argument, therefore, is true and very well-articulated. However, it applies to normal circumstances; to an environment in which the authorities have no incentive to look for money where it can be found. We might not be living in such an environment. The cash flow argument is valid only when we assume the current financial repression is not turning into something worse, say, something more authoritarian. Students of history won't find this last line of argument too farfetched.

> **"Disobedience, in the eyes of anyone who has read history, is man's original virtue. It is through disobedience and rebellion that progress has been made."**
> —*Oscar Wilde (1854-1900)[2]*

Making a mockery out of democracy

The following Lenin-Keynes quote is nearly a hundred years old and has appeared and reappeared ad nauseam since the financial crisis. However, there is good reason for the quote appearing and reappearing ad nauseam: it's important. The fact that the monetary authorities in Europe for example have managed credit spreads to narrow through a mix of rhetorical hyperbole and regulatory force (e.g., the ban of uncovered sovereign CDS) is great. However, given all the various intervention by the various authorities, risk cannot anymore be determined by examining market prices. To students of history there is something going on below the surface, a source of incommodiousness and—avoiding to sounding alarmist—heightened uncertainty.

> **"The longer you can look back, the farther you can look forward."**
> —*Winston Churchill*

Lenin is said to have declared that the best way to destroy the capitalist system was to debauch the currency. By a continuing process of inflation, governments can confiscate, secretly and unobserved, an important part of the wealth of their citizens. By this method they not only confiscate, but they confiscate arbitrarily; and, while the process impoverishes many, it actually enriches some. The sight of this arbitrary rearrangement of riches strikes not only at security, but at confidence in the equity of the existing distribution of wealth. Those to whom the system brings windfalls, beyond their deserts and even beyond their expectations or desires, become 'profiteers,' who are the object of the hatred of the bourgeoisie, whom the inflationism has impoverished, not less than of the proletariat. As the inflation proceeds and the real value of the currency fluctuates wildly from month to month, all permanent relations between debtors and creditors, which form the ultimate

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[1] "In GOLD we TRUST," Erste Group, July 2011

[2] From *The Soul of Man Under Socialism, Fortnightly Review* (London, February 1891, repr. 1895).

foundation of capitalism, become so utterly disordered as to be almost meaningless; and the process of wealth-getting degenerates into a gamble and a lottery.[1]

The current risk-on/risk-off market environment does indeed resemble a lottery. Whether citizens are impoverished through negative real interest rates caused by inflation or deflation-fighting or financial repression doesn't really matter; it's the impoverishing bit in Keynes statement that matters from an investor's perspective. The following literary titbit is also relevant today. It stems from Alexander Fraser Tytler (1747-1813), Scottish-born lawyer, writer, historian, and professor of history at the University of Edinburgh:

> *A democracy cannot exist as a permanent form of government. It can only exist until the voters discover that they can vote themselves largesse (money-benefits) from the public treasury. From that moment on, the majority always votes for the candidates promising the most benefits from the public treasury with the result that a democracy always collapses over loose fiscal policy followed by a dictatorship. The average age of the world's greatest civilizations has been 200 years.*[2]

Democracies have turned into something else, something non-democratic, before. At one stage, it becomes a matter of survival for capital to move elsewhere; again, capital defined broadly. Under normal circumstances capital flight might be morally wrong. However, does the adage "normal circumstances" really apply to today? Given where some countries rank on the Perceived Corruption Index[3] and given where the West stands in terms of the stage in its welfare-state-bubble? Middle Eastern capital is on the move; Greek and Spanish capital is on the move too; London and Geneva thereby benefiting from *Wriston's Law of Capital*. German entrepreneurs are setting up shop in Switzerland as taxes, labour laws and red tape are insurmountable for start-ups at home. In Italy the Mafia is the largest lender. Portugal is already in the process of going after the pensions of its citizens. France just went Venezuela; "going Venezuela" standing for making wrong economic policy decisions repeatedly, thereby entering into a negative feedback loop, increasing the structural deficits, that—in the end—can tear the socio-economic fabric apart. Whether these anecdotes are early signs of a more destructive phase is hard to tell. But the direction of the trend seems clear.

Authorities turning against capital and savings are a game changer. However, there is no one sticking up a red flag and warning us that now indeed the game has changed. Change in this case happens gradually. These gradual changes are difficult to identify or spot. A market crash is a crash and the impact is sudden and clear to everybody. However, an extended period of negative real interest rates or slow expropriation via nationalisation and/or taxes is a different beast entirely.

"In all ages, whatever the form and name of government, be it monarchy, republic, or democracy, an oligarchy lurks behind the façade."
—Ronald Syme (1903-1989), New Zealand-born historian and renowned authority of ancient Rome

"Democracy is the road to socialism."
—Karl Marx

"Most of the poverty and misery in the world is due to bad government, lack of democracy, weak states, internal strife, and so on."
—George Soros[4]

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[1] Keynes (1919), [Chapter 6](#)

[2] Often attributed to: *The Decline and Fall of the Athenian Republic* (1776). Note that Tytler might never have said or written the above verbatim. There is some evidence that this is indeed a misattribution. However, the idea that democracies have an expiry date is real and can be attributed to Tytler. Tytler displayed a cynical view of democracy in general and representative democracies such as republics in particular. He believed that "a pure democracy is a chimera," and that "all government is essentially of the nature of a monarchy." (Misattribution from wikiquote.org.)

[3] See www.transparency.org

[4] Note that Mr Soros's biography also relates to *Wriston's Law of Capital*. His kind "was not welcome," so they left.

Practical relevance

The practical relevance is the following. Under normal circumstances it is illegal as well as morally wrong to go against one's countries rules, regulations and law. In a capitalistic system, the rule of law is the most important thing, even more important than roads and cheap energy. But what happens when one's own country turns illegal and corrupt? If history is a constant battle between freedom and repression, as some claim, then the spirit behind the quote in the side text doesn't cause property owners, entrepreneurs, holders of wealth, and capitalists to break out in uncontrolled festivity and joy, does it. It's of course not just one quote—potentially taken out of context[2]—that is worrisome. It is the deep rooted spirit and freedom-adverse beliefs that stand behind such statements that are the bone of contention. A temporary short selling ban is just a minor detail but it is potentially a harbinger of things to come that are much uglier. History does indeed suggest that repression in one form or another can go on for a long time until it eventually fails. Risk management would get much more difficult if temporary short selling bans turn into permanent short selling bans and then permanent short selling bans turn into a ban of all other hedging instruments and techniques; like short futures, long puts, CDS, long gold, physical or otherwise, cash, etc. Well, the holding of cash is already being punished via negative real interest rates.

"We must re-establish the primacy of politics over the markets."
—*Angela Merkel[1]*

Fiat money and Founding Fathers

Reaganomics—rightly or wrongly—stands for smaller government, less government spending, lower taxes, controlled money supply, and less regulation. The punch phrase from Ronald Reagan was "Government is not the solution to our problems; government is the problem." Mr Reagan even made a contribution to the English language by defining the ten most dangerous words: "Hi, I'm from the government, and I'm here to help." The current environment is essentially the opposite of Reaganomics, the opposite of that spirit. It means bigger government, more government spending, higher taxes, uncontrolled money supply, and more regulation.

"It is well that the people of the nation do not understand our banking and monetary system, for if they did, I believe there would be a revolution before tomorrow morning."
—*Henry Ford*

We don't know how this will end. However, we do know this. When big government intervenes and the market cannot function properly, small inefficiencies typically turn into big problems. We don't know exactly the magnitude and the timing of the problem resolving itself, for example the popping of a bubble, but we do know that the chicken eventually comes home to roost. The advantage of a free market that is transparent and liquid is that small inefficiencies do not turn into big problems but are typically corrected early on. The Euro experiment is just one example. A small problem turned into a big one. The proverbial can *can* indeed be kicked down the road for a while longer. However, a major adjustment of some sort will most likely unfold.

"History repeats itself; that's one of the things that's wrong with history."
—*Clarence Darrow (1857-1938), American lawyer*

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[1] "Angela Merkel calls for politics to re-establish primacy over markets," WDR Europa Forum, Bundesregierung.de, 6 May 2010

[2] The context in this case was the financial crisis and the situation in Greece rapidly becoming the central issues under discussion. "In a way it is a struggle between politics and the markets. We must re-establish the primacy of politics over the markets," declared the Chancellor. It is up to politicians to compensate for tensions on the markets. We must proceed step by step, and in step as far as possible. All parties in the German Bundestag are called on to do so, she said. (From bundesregierung.de)

After the experience of 2008 many investors were not asking about the return *on* their investments but about the return *of* their investments. New-and-approved, government-signed-off and regulated products cater to this demand. A regulated product gives certain investors a sense of security. It is also better from a career risk perspective. Losing money with a regulated product is not the same as losing money with an unregulated one. It is well known that investing unconventionally involves career risk. Losing 50% of a 50% portfolio allocation in equities typically does not end an institutional investors' career. Losing 20% of a 5% portfolio allocation in an "alternative" investment can, has, and most likely will continue to end careers prematurely.

Regulating financial products is just one aspect. The idea is—simplifying a bit—to protect the fish from the sharks, i.e., to "help" people buy financial service products they do not understand. (More formally: asymmetrical information.) A more important aspect of regulation is best described as "systems integrity." Well functioning capital and financial markets are the lubricant that allows the economy to run smoothly. The reason finance is much more heavily regulated than other industries is that market disruptions can have devastating consequences for the whole economy. Laudable intentions can have bad outcomes though. An administration wanting housing for people who can't afford housing, coupled with cheap money and some skirmishes in the mortgage market resulted in the most severe global and synchronised recession in generations. (Table 3.)

"Worldly wisdom teaches us that it is better for reputation to fail conventionally than to succeed unconventionally."
—*John Maynard Keynes[1]*

"Regulators get to the point of their incompetence and create the crisis because they fail to regulate, and then use the crisis as the argument for more power, and so now you have the Council of Regulators made up by the very same people who created the crisis in the first place."
—*Eliot Spitzer[2]*

Table 3: Global real GDP, SAAR (seasonally adjusted annual rate, selected economies)

	2007 Q1	Q2	Q3	Q4	2008 Q1	Q2	Q3	Q4	2009 Q1	Q2	Q3	Q4	2010 Q1	Q2	Q3	Q4	2011 Q1	Q2	Q3	Q4	2012 Q1	Q2	Q3	Q4	2013 Q1	Q2
Median	4.2	3.9	4.5	3.8	3.5	3.1	0.7	-2.0	-4.3	-4.0	-3.3	0.2	3.1	3.8	3.4	3.5	2.9	2.3	2.5	1.8	1.1	1.0	0.9	1.4	1.2	1.5
United States	1.2	1.7	2.3	1.9	1.1	0.9	-0.3	-2.8	-3.5	-4.1	-3.3	-0.2	1.6	2.7	3.0	2.8	2.0	1.9	1.5	2.0	3.3	2.8	3.1	2.0	1.3	1.6
China	11.1	11.9	11.5	11.2	10.6	10.1	9.0	6.8	6.2	7.9	9.1	10.7	11.9	10.3	9.6	9.8	9.7	9.5	9.1	8.9	8.1	7.6	7.4	7.9	7.7	7.5
Eurozone	3.7	3.0	3.0	2.3	2.1	1.2	0.0	-2.1	-5.5	-5.3	-4.4	-2.2	1.0	2.2	2.2	2.2	2.6	1.7	1.4	0.7	-0.2	-0.5	-0.7	-1.0	-1.0	-0.5
Germany	4.4	3.5	3.3	2.4	2.8	1.8	0.5	-1.8	-6.8	-6.2	-5.1	-2.2	2.5	4.3	4.4	4.2	5.3	3.3	2.9	2.2	1.3	1.1	0.9	0.3	-0.3	0.5
Japan	2.8	2.3	2.0	1.6	1.4	-0.1	-0.6	-4.7	-9.4	-6.6	-5.6	-0.5	4.9	4.4	6.0	3.3	0.0	-1.5	-0.6	-0.2	3.4	3.8	0.3	0.4	0.3	1.2
United Kingdom	2.4	3.4	4.4	3.6	2.8	0.6	-2.1	-4.3	-6.8	-6.3	-4.9	-2.5	0.5	1.9	2.3	1.7	1.7	0.8	1.0	1.1	0.6	0.0	0.0	-0.2	0.2	1.4
France	2.6	2.1	2.4	1.8	1.6	0.4	-0.4	-2.3	-4.3	-3.7	-3.2	-1.0	1.0	1.6	2.1	1.9	2.8	2.1	1.8	1.5	0.4	0.1	0.0	-0.3	-0.5	0.4
Italy	2.5	2.0	1.7	0.1	0.5	-0.2	-1.9	-3.0	-7.0	-6.6	-4.9	-3.4	1.1	1.9	1.8	2.0	1.3	0.9	0.3	-0.5	-1.7	-2.4	-2.6	-2.8	-2.4	-2.1
Spain	3.9	3.5	3.4	3.1	2.7	1.9	0.3	-1.4	-3.5	-4.5	-4.1	-3.1	-1.4	-0.1	0.2	0.5	0.6	0.3	0.0	-0.6	-1.2	-1.6	-1.7	-2.1	-2.0	-1.6
Netherlands	3.2	3.1	4.5	4.8	3.5	3.0	1.7	-0.9	-4.0	-5.0	-3.5	-2.1	0.3	1.9	1.5	2.3	2.5	1.4	0.9	-0.9	-1.1	-0.7	-1.7	-1.5	-1.8	-1.7
Brazil	5.2	6.4	6.1	6.7	6.3	6.5	7.1	1.0	-2.7	-2.4	-1.5	5.3	9.3	8.8	6.9	5.3	4.2	3.3	2.1	1.4	0.8	0.5	0.9	1.4	1.9	3.3
Canada	2.9	3.5	2.8	3.7	4.0	5.1	5.5	0.9	-2.5	-3.8	-3.4	1.3	3.7	2.9	2.3	1.8	2.3	3.5	3.6	3.6	2.6	1.4	1.7	1.0	1.2	1.3
India	9.8	9.7	9.5	9.6	8.6	9.8	8.5	5.8	3.5	5.9	9.3	7.7	11.4	9.5	8.6	9.2	9.9	7.5	6.5	6.0	5.1	5.4	5.2	4.7	4.8	4.4
Russia	8.1	8.6	8.2	9.2	9.2	7.9	6.4	-1.3	-9.2	-11.2	-8.6	-2.6	4.1	5.0	3.8	5.1	3.5	3.4	5.0	5.1	4.8	4.3	3.0	2.1	1.6	1.2
Australia	4.6	5.1	4.9	3.9	3.4	2.9	2.9	1.5	1.3	0.9	0.9	2.5	2.1	2.8	2.8	2.8	1.8	2.3	2.9	2.6	4.5	3.7	3.3	3.3	2.5	2.6
South Korea	4.5	5.3	4.9	5.7	5.5	4.4	3.3	-3.3	-4.2	-2.1	1.0	6.3	8.7	7.6	4.5	4.9	4.3	3.5	3.6	3.4	2.8	2.4	1.6	1.5	1.5	2.3
Taiwan	4.5	5.7	7.1	6.5	7.6	5.7	-1.2	-7.5	-8.1	-6.6	-1.4	8.8	13.1	12.9	11.6	6.2	7.4	4.6	3.5	1.2	0.6	-0.1	0.7	4.0	1.6	2.5
Hong Kong	5.9	6.2	6.7	7.0	7.0	4.0	0.9	-2.7	-7.8	-3.1	1.7	2.5	7.9	6.4	6.6	6.4	7.6	5.1	4.0	3.0	0.7	0.9	1.5	2.8	2.9	3.3
Singapore	8.1	9.7	11.0	6.7	8.1	3.2	-0.3	-3.7	-8.8	-2.0	1.9	5.3	16.5	19.8	10.6	12.5	9.9	1.8	5.7	3.6	1.5	2.3	0.0	1.5	0.2	3.8
Switzerland	3.8	4.3	4.0	3.4	2.7	3.4	2.8	-0.3	-2.7	-3.5	-2.0	0.6	2.3	3.3	2.6	3.6	2.9	2.2	1.3	0.8	0.8	0.5	1.3	1.6	1.2	2.5

Source: IR&M, Bloomberg. Notes: Not seasonally adjusted: Japan, South Korea, Singapore, and Switzerland. Original data: US: Bureau of Economic Analysis; China: National Bureau of Statistics; Eurozone: Eurostat; Germany: Federal Statistical Office; Japan: Economic and Social Institute; UK: Office for National Statistics; France: INSEE; Italy: ISTAT; Spain: Eurostat; Brazil: IBGE; Netherlands: Dutch Statistics Office; Canada: STCA; India: Central Statistical Organisation; Russia: Federal Service of State Statistics; Australia: Bureau of Statistics; South Korea: Bank of Korea; Taiwan: Directorate General of Budget Accounting & Statistics; Hong Kong: Census & Statistics Department; Singapore: Ministry of Trade and Industry; Switzerland: State Secretariat for Economic Affairs.

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[1] Keynes, John Maynard (1936) "The General Theory of Employment, Interest, and Monday," Harcourt, Brace & World, New York , Chapter 12.

[2] Lunch with the FT: Eliot Spitzer, 30 September 2009

The failure of a shoe or cheese producer cannot impair the system's integrity, whereas the single failure of a single financial institution—due to the interconnectedness of financial institutions—can. The societal costs of a systems failure can be enormous, as we now know. Financial regulation is a response to markets not being able to deal with this societal externality on its own; or, more precisely, the belief thereof. Figure 19 shows our "where to hide slide;" the performance of a selection of asset classes and instruments during the 2008/09 financial crises and two further disruptions. US Treasury and German Bunds was where investors looked for stability during market mayhem. Note that any "where to hide slide" is based on the assumption that markets are functioning, brokers pick up the phone, prices are quoted, and the investor can execute on those offered prices.

"I'm not worried about markets trading down. I'm worried they won't trade at all."
—Peter Fisher, Head trader for the NY Federal Reserve visiting LTCM[1]

Figure 19: The Where to Hide Slide
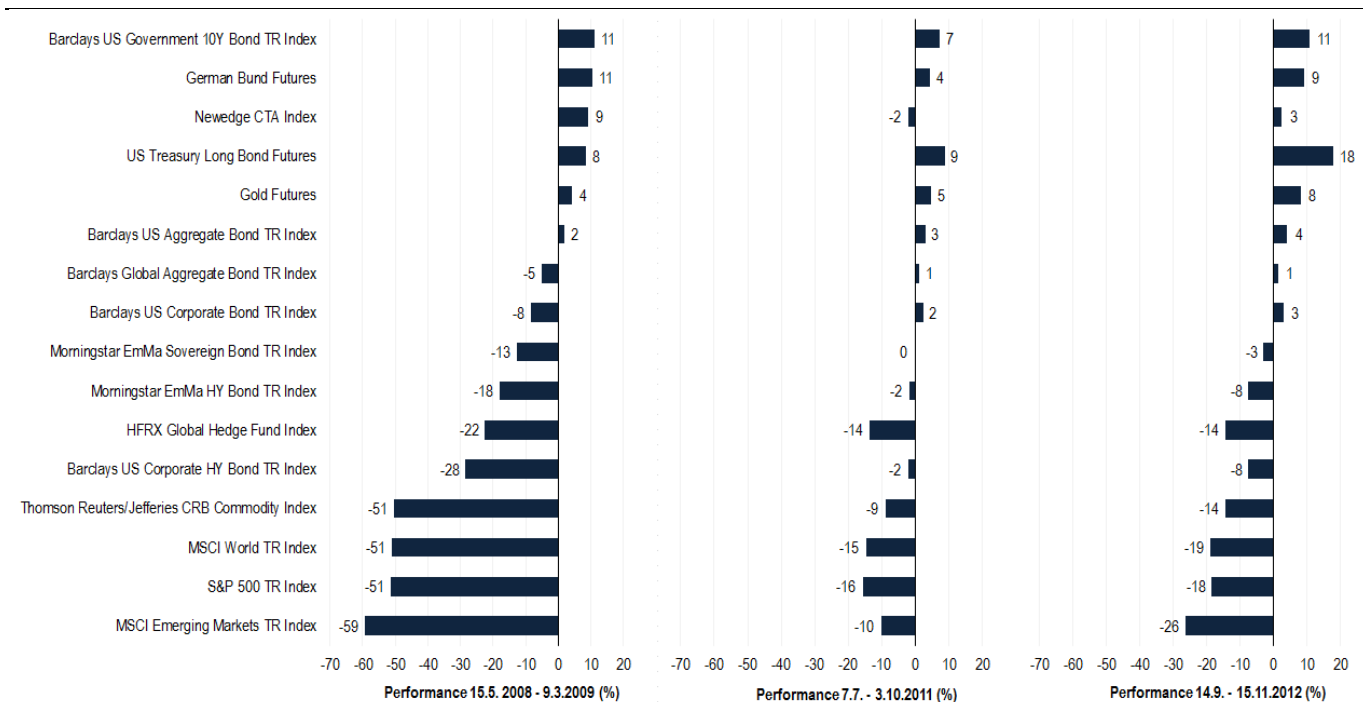
Source: IR&M, Bloomberg. Notes: Sorted by 2008/09 disruption. TR stands for Total Return (index).

The authorities attempt to improve the system by making it less prone to accidents and failure is laudable. However, the attempt to eliminate failure entirely is not. Failure is an elementary part of learning and therefore progress. Many frogs fell flat on their nose and many died before the frog's strong legs evolved and allowed it to jump about as they do today. This trial and error, i.e., the process of natural selection worked very well for the system "frog" even if it didn't work out for every single frog and frog-ancestor that ever lived. The same is of course true for the system "financial markets." Single market participants need to be able to fail. It's part of trial and error, or evolution, or the "learning by doing" dictum. Losses and failure are a harsh, but also the most astute and pragmatic teacher. Small

"Good judgment comes from experience, and often experience comes from bad judgment."
—Rita Mae Brown, American writer

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[1] From Lowenstein, Roger (2000), p. 297

losses or the failure of single entities is essentially good for the system as it makes it stronger.[1]

In the current regime this process is disturbed and capital misallocated as a result. One reason for this process being disturbed is the interconnectedness of financial institutions mentioned earlier. Some are literally too big to fail. The societal costs of failure are too high; or are perceived as too high by those in power. But abandoning single entity failure through governmental intervention not only rewards failure but also disturbs the systems' ability to improve and progress and to allocate capital smoothly and efficiently. It's a perverted form of Robin Hood's code (of stealing from the rich and giving it to the poor); essentially giving to the profligate, reckless and failed by taking from the frugal, diligent and successful. By artificially eliminating single entity failure the system is weakened and the system's complete failure becomes inevitable. Again, Herbert Stein's Law applies.

Note that government intervention and central bank "assistance" is not all bad and has indeed short-term benefits. Banks' balance sheets are being reflated through artificially creating a steep yield curve which arguably is a positive. Shareholders currently must appreciate abundant liquidity too because without it, equities wouldn't be rising. (Figure 20) (Not everyone thinks the already rich getting richer is a great idea though.)

"Education is an admirable thing, but it is well to remember from time to time that nothing that is worth knowing can be taught."
—*Oscar Wilde*

"Blessed are the young for they shall inherit the national debt."
—*Herbert Hoover (1874-1964),*
US President from 1929-1933[2]

Figure 20: Expansion of US monetary base with impact for equities and commodities
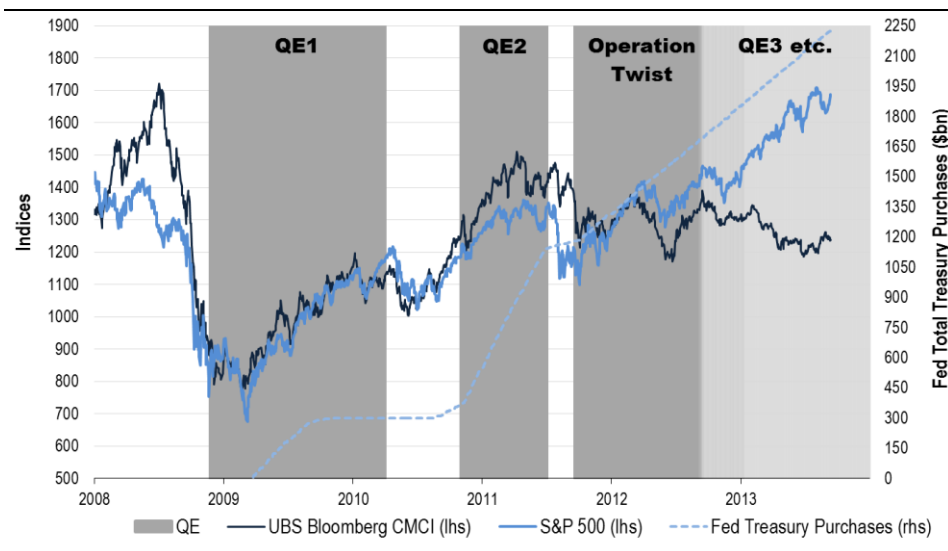
Source: IR&M, Bloomberg
QE: quantitative easing; 4 September 2013 inclusive.

■ As soon as QE 1 was finished, equities fell; hence the introduction of QE 2 and then QE 3, which is amicably referred to as "QE infinity". QE is the drip that keeps the patient alive.

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[1] Both Goethe and Nietzsche are quoted saying something along the lines of "What doesn't kill me makes me stronger."
The concept of learning by making mistakes is of course much older than a couple of hundred years. However, survival is of course a prerequisite for learning from mistakes.

[2] Address to the Nebraska Republican Conference, Lincoln, Nebraska, 16 January 1936

Fiat money and uncontrolled money supply is part of the new regime but not the main part of this publication. Adam Smith and Voltaire already made all the relevant points ages ago. Adam Smith: "The problem with fiat money is that it rewards the minority that can handle money, but fools the generation that has worked and saved money."

Note here that the old definition of "inflation" is the increase of the money supply. Only newer definitions of inflation refer to it as "a rise in the general of prices of goods and services".[1] (Old) inflation is caused by an increase in the money supply in excess of any corresponding increase in goods and services for sale, resulting in the devaluation of the currency. When people talk about inflation nowadays, they typically mean *price inflation*, e.g., the price of goods and services going up. However, rising tomato prices is caused by supply and demand for tomatoes. (Old) inflation (sometimes referred to as monetary inflation) results in price inflation with a lag and is a hidden tax.[2] The people responsible for causing old inflation have an incentive to sugar-coat it a bit; hence the new definition, the introduction of hedonistic adjustments, or the focus on gauges that exclude items where prices are actually going up, i.e., the idea of "core" inflation.[3] The old definition was a bit blunt, as it pointed the finger at the governing authorities; Joe Public could easily put the blame squarely where it belonged.

Asset inflation is also part of old inflation; after all, the newly minted money has to go somewhere.[4] Fiat money allows the governing authorities to control the economy via the supply of money. The optimists' view is that the governing authorities know what they're doing. Given that many aspects of modern economic life (monetary aggregates at all-time-highs and rising, fertility rates on various occasions at all-time-lows and falling, etc.) are unprecedented, chances are, they don't.

"At the end fiat money returns to its inner value – zero."
—*Voltaire*

"If the governments devalue the currency in order to betray all creditors, you politely call this procedure 'inflation'."
—*George Bernard Shaw*

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[1] Henry Hazlitt, author of *What You Should Know About Inflation*, wrote: "Inflation is not a scientific term. It is very loosely used, not only by most of us in ordinary conversation, but even by many professional economists. It is used with at least four different meanings: 1. Any increase at all in the supply of money (and credit). 2. An increase in the supply of money that outruns the increase in the supply of goods. 3. An increase in the average level of prices. 4. Any prosperity or boom. Let us here use the word in a sense that can be widely understood and at the same time cause a minimum of intellectual confusion. This seems to me to be meaning 2."

[2] Note that (old) inflation can cause *price deflation* in the short term through demand destruction, e.g., if prices for food and energy rise, demand for other items in the consumer's basket can fall.

[3] Annual price inflation in the US to September 2013 from John Williams' shadowstats.com, which is based on reporting methodology in place before 1990, was north of 5%.

[4] At the time of writing, the velocity of money in the US was at an all-time low and falling. All the cash was/is with the banks.

Practical relevance

Fiduciaries face a dilemma. Professional fiduciaries are familiar with the above. From a career perspective it is safe to invest conventionally and abide to rules and regulations. This means managing assets relative to the present value of liabilities. If the present value of liabilities falls, so be it. The dilemma arises from the implicit, and in some cases explicit, mandate to preserve/increase wealth in real terms. In a certain regime this could mean investing unconventionally. Many institutional investors in North America and elsewhere have been investing in real assets and real cash flows for many of the reasons mentioned above. The funny thing is that investing in alternatives and investing unconventionally eventually becomes the norm. Alternative investments have a tendency to become mainstream, i.e., a traditional asset class sooner or later. The same is true for unconventional ideas.

Note that in business there is such a thing as a second-mover advantage with Microsoft and Apple being text-book examples of second movers who offered a better product than the innovator and succeeded; the first movers being long forgotten. In investment management there is most likely no such thing as a second-mover advantage. Pioneers and early adaptors nearly always graze on greener pastures. The first mover advantage is real. However, the prospect of failure is real too.

In search for yield in low-yield environment

Controlling the downside

The investment discipline that addresses uncertainty, drawdowns, negative compounding, capital erosion, misallocation of capital, governmental interference, etc. is active risk management. This is arguably a big task that reaches far beyond the mathematically elegant mean-variance space or the insidious world of VaR.

The hedge fund industry for example was able to put itself on the agenda of institutional investors not because the managers were particularly friendly but because many institutional investors sensed that having an oversized allocation to long-only equities coming out of a 20-year equity bull market in the late 1990s and early 2000s might not be the pinnacle of investment wisdom. The institutional search for alternatives commenced in 2000 around the peak of the historically unprecedented equity bull market. Many investors have bought into the idea of "absolute returns" throughout the 2000s in which equities have not halved once but twice. This means they have bought into the idea that it is active risk management that is the key to absolute returns, i.e., the long-term compounding of capital in real terms.

Now we are, potentially, at the end of a 30-year bull market in government bonds whereby the governmental authorities are not exactly a hub of unlimited credibility, trust and persuasiveness when it comes to handling the current difficult situation. The institutional allocation to hedge funds is rather small, say less than 5% on average, despite having absorbed large amounts of resources in terms of human and intellectual capital of most institutional investors over the past 10+ years. If we agree that applying the absolute return investment philosophy by

> **"As an investor and fiduciary, I don't get paid to be an optimist or pessimist; I only get paid to be a realist. I think you have to detach yourself from your own beliefs and belief systems to try and come up with a pragmatic answer and I think denial is a really big thing in financial markets."**
> —*Kyle Bass, investment manager[1]*

> **"Vision without action is a daydream. Action without vision is a nightmare."**
> —*Japanese Proverb*

> **"*The aim of the wise is not to secure pleasure, but to avoid pain.*"**
> —*Aristotle*

> **"A wise man changes his mind, a fool never."**
> —*Spanish proverb*

> **"Expect the best, plan for the worst, and prepare to be surprised."**
> —*Denis Waitley, American motivational speaker and author of self-help books[2]*

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[1] Kyle Bass, Strategic Investment Conference 2013, Altegris/Mauldin conference, 1-3 May 2013

[2] This quote, or a variant thereof, is occasionally attributed to Dwight D. Eisenhower.

seeking asymmetric returns[1] is the opposite of the long-only investment philosophy and the glorification of benchmarks and mean-variance optimizers, then large parts of the institutional portfolios are unhedged. Risk is uncontrolled.

Seeking an asymmetric return profile is worthwhile because investors are loss averse. The idea is to mitigate/avoid/control the downside while still being exposed to the upside. This is an active task. Passive returns are symmetric; the long-only space being essentially a place where the returns are "given" by the market. However, the craft that is "active risk management" is about altering these given return profiles to the long-term advantage of the "alterer," i.e., the active investor. It goes without saying that this task doesn't work for all investors. If capital is eroded or destroyed, some investors will be holding shorter sticks than others. It is potentially ironic that "absolute returns" is a relative performance game too, as it is about altering the risk profile in a way that it is someone else who holds the shortest of sticks when things go wrong.

The disintermediation of everything

Negotiating fees is said to be a pure form of alpha for any investor who uses third party financial services such as asset management, consulting, etc. Furthermore, a fee reduction of 20 basis points is reasonably certain whereas 20 basis points of promised alpha are not. Additionally, if returns fall and fees stay the same, the proportion of net return versus fees changes. The fees become a larger percentage of gross returns. In other words, as yields and returns have fallen over the past years, the incentive to re-negotiate or lower fees has risen; it adds more value to the bottom line, i.e., net returns rise. Figure 21 shows a hypothetical, bond-heavy asset allocation (dark blue bars). The light blue bars show the portion of fees, i.e., the percentage of fees per asset class, based on reasonably realistic total expense ratios.

"I'm always thinking about losing money as opposed to making money. Don't focus on making money; focus on protecting what you have."
—Paul Tuder Jones, investment manager[2]

Lower fees are certain; promised alpha isn't.

Figure 21: Asset allocation and fees (conceptual)
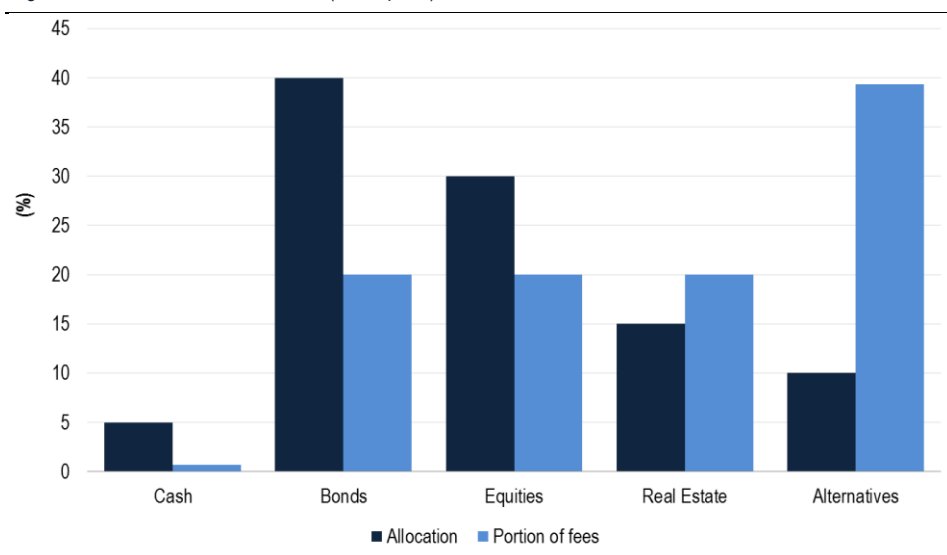
Source: IR&M

[1] See Ineichen (2007)

[2] Schwager, Jack D. (1990) "Market Wizards—Interview with top traders," New York: Harper Business.

The portion of the fees obviously depends heavily on whether the allocations are active or passive. However, many investors have allocated vast resources to reduce their total expense ratios (TER). Fund of hedge funds (FoHF) were probably the hardest hit by this exercise. A mix of high correlation to low-TER betas, unexpected tail-event risk (Madoff), investor's revisit of the FoHF's business models and value, and mediocre performance over the past five years resulted in redemptions and/or renegotiation of fees. In a low-yield environment, cutting the middleman is perceived widely as pure alpha.

Cutting the middleman is perceived as pure alpha.

Lowering fees is of course not limited to hedge funds and fund of funds. Private equity is also an area where an increasing number of institutional investors are moving to direct and/or co-investments. North American, especially, some large Canadian pension funds have been moving into dealmaking and other businesses that institutional investors typically outsource to specialists. [1] Other large institutional investors are following by hiring specialists internally and insourcing various "alternative" investments. Fang, Ivashina, and Lerner (2012) studied 392 direct private equity transactions made by seven large pension funds and sovereign wealth funds between 1991 and 2011. The authors found that those direct investments outperformed private equity fund benchmarks. Those deals delivered 76 per cent cumulative gains on a weighted average, when all global private equity funds returned 39 per cent over the same period. Furthermore, the Financial Times wrote:

Some pension funds are insourcing certain financial services thereby disintermediating the intermediary

> But their strongest finding is that this outperformance was due to the deals those pension plans and sovereign wealth funds initiated and conducted on their own, not with a fund manager. Those "solo" transactions delivered three times the initial investments on average, or a 15.5 per cent return annually, according to a draft of the authors' working paper, "The Disintermediation of Financial Markets: Direct Investing in Private Equity", released in June. [2]

The "disintermediation of everything" is only half of the story. The other half is that it is the middle that is getting squeezed. It has been apparent for many years that both passive as well as active mandates are increasing in popularity with institutional investors. It's essentially a form of barbell where the middle (the "belly" in yield curve parlance) is feeling the pain most. It is the middle that is selling beta for alpha and finding this activity more and more difficult as investors move up the learning curve. This is true especially in cases where there is a mismatch between expectations and reality, i.e., between promised and delivered alpha. Moving up the learning curve—obviously—has a lot to do with the learning-by-doing dictum mentioned earlier in the document. Figure 22 shows traditional asset management caught in the middle; essentially having neither high growth nor high margins.
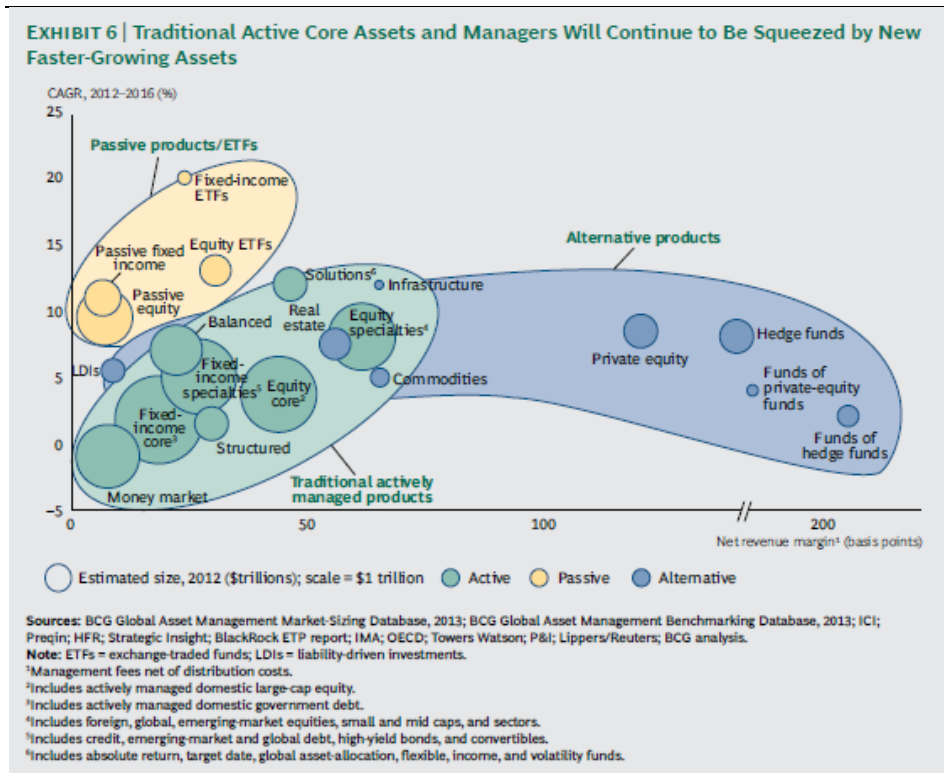
"Experience is the teacher of all things."
—*Julius Caesar[3]*

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[1] "Pension plans: Flying solo," Anne-Sylvaine Chassany, Financial Times, 10 September 2013

[2] Ibid.

[3] Commentarii de Bello Civili (Commentaries on the Civil War), 2. 8 (50s or 40s BC).

Figure 22: Asset management barbell

EXHIBIT 6 | Traditional Active Core Assets and Managers Will Continue to Be Squeezed by New Faster-Growing Assets

Source: The Boston Consulting Group (BCG)

The Boston Consulting Group (BCG) finds that the current low-yield environment favours passive as well as specialist strategies and managers.[1] Businesses catering to the institutional investors therefore, have an incentive to either move towards the upper left or lower right in Figure 22.

One idea to address the challenges of a low yield environment where returns and yields from holding securities are low is to replace low returning betas with high returning alphas or adding alphas to the low betas to increase the betas; "portable alpha" being the catch phrase at the time. However, alpha is a flimsy concept in multiple ways. First, many a financial professional talks about it, but only very few deliver it. In other words there is certainty in the promise and hope, but uncertainty regarding the delivery. Second, the term is ambiguous. Practitioners define it as the value added of active asset management while academia derives the term from the Capital Asset Pricing Model (CAPM) where alpha is the return component not explained by other risk factors. Third, alpha has a tendency to either disappear when everyone agrees on it and piles in, or is simply explained away by new econometric models where the model assumptions have been tweaked in a way to refute the perceived alpha. The Honey-I-shrunk-the-alpha graph (Figure 23) shows the evolution of "academic alpha". (In academia, large parts of hedge funds returns have been classified as beta of some sort. Please note the following: An investment of USD100 invested in the MSCI Europe Total Returns USD Index in January 2000 stood at USD102 at the end of August 2013. An investment of USD100 in January 2000 in the average equity long short hedge fund (as measured by the HFRI Equity Hedge Index) stood at USD196 at the end of

Alpha is a flimsy concept

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[1] "Global Asset Management 2013: Capitalizing on the Recovery," The Boston Consulting Group, July 2013.

August 2013.[1] This is a big difference. Perhaps we shouldn't call it alpha; perhaps we should just call it a "big difference" and be done with it.)

Figure 23: The evolution of alpha
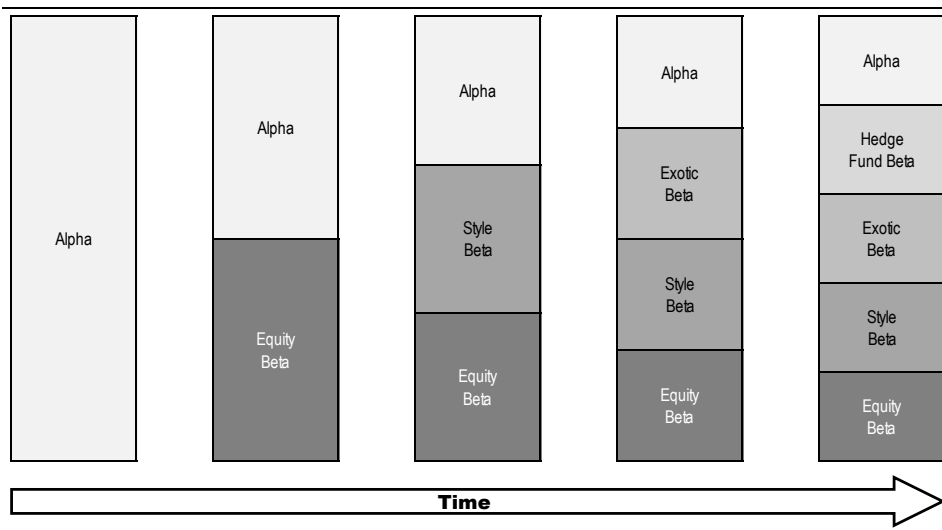
Source: Berger, Kabiller, and Crowell (2008)

An early nail in hedge-fund-alpha-vernacular coffin was by Fama and French (1992) a two-factor model that separated style and size factors. From then on a manager tilting his equity portfolio towards value and small cap stocks was not generating alpha but riding style and size betas. (As alphas and betas are not the main part of this publication, we are simplifying a bit.) Then along came Carhart (1997) and added a momentum factor, for academia to have a four-factor model to explain away any perceived alphas. So an equity manager tilting his portfolio towards value and small caps and who let profits run, rather than take profits early, implicitly adding a momentum factor to the mix, was not adding any value either. Then Fung and Hsieh (2004) introduced a seven-factor model, then an eight-factor model. (We also came across 17 and 19-factor models.) The fact that equity long short as a sub-industry of asset management roughly doubled their money since 2000 whereas long-only equity asset management is roughly flat over this period is of no scholarly interest.

Practical relevance

Today we believe the academic consensus is that there is not that much alpha going around and if there is, a model is about to be created to prove there isn't. We believe the consensus among practitioners is that not all asset managers are created equal, that there are indeed differences, that these differences increase with the degree of the manager's freedom as well as the inefficiency of the underlying market, and that it is possible to identify these firms. This means intelligence and research-heavy financial services firms advising institutional investors as well as savvy and specialised asset managers will most likely prevail and do well in this investment environment that is generally perceived as challenging.

"Idealism is what precedes experience; cynicism is what follows."
—*David T. Wolf, Author*

"Investing without research is like playing stud poker without looking at the cards."
—*Peter Lynch[2]*

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[1] This investment stood at USD329 when measured by the Eurekahedge Long Short Equities Hedge Fund Index.

[2] Lynch, Peter with John Rothchild (2000) "One Up On Wall Street—How to Use What You Already Know to Make Money in the Market," New York: Simon & Schuster.

While some might still be *in search of alpha*, the world has moved on. The investment landscape has opened to all kind of asset classes and investment forms; infrastructure, land, renewable energy projects and ideas, direct corporate credit (disintermediating Wall Street), revolvers (senior secured loans), shopping malls, frontier markets, crowdfunding, co-investment just to name a few. Savvy, sophisticated, well-staffed, well-connected, and well-advised investors will most likely be picking up liquidity and complexity premiums along the way. Investors, who just think in alpha and beta and equities and bonds terms, probably won't. The current landscape is a great opportunity for specialisation and "white-haired" expertise and intelligence helping institutional investors steering through the diverse investment sphere. As BCG put it:

> *The increasing complexity and internationalization of financial markets—and the growing difficulty of navigating them—has created new, specialized asset classes along with the need for greater asset-allocation expertise. The days of the simple 60-40 domestic equity-bond portfolio are over.*[1]

In the next section we discuss some aspects of gold before we argue that uncertainty management and risk management are not synonymous. The former is more serious.

Gold – A non-institutional disaster trade

Over the past couple of years the topic of tail risk gained prominence. This is a healthy development because it goes to show how defunct any risk assessment that involves assumptions about normal distributions or efficient and frictionless markets really is. It is a healthy development also with respect to investor flexibility. Many variable asset classes and investment opportunities do not fit very well into an optimizer, as mentioned earlier. (Ideally, contemplating tail risk is conducted prior to a tail event, but the "better-late-than-never" adage applies nevertheless.)

A "risk measure" that is most likely even more relevant than tail risk today is the "probability of negative compounding". Simplifying a bit, tail risk stands for losing money fast whereas the idea of negative compounding stands for losing money slowly. Negative compounding is the opposite of positive compounding. Positive compounding essentially means—simplifying to the max—sitting there, doing nothing, and watching capital grow. Negative compounding essentially means sitting there, doing nothing, and watching capital disappear. The idea of asymmetric returns then, is, rather than just "sitting there," to do something about having a bit more of the positive compounding and, most importantly, a lot less of the negative compounding.

Sophisticated, well-advised long-term investors will be picking up premiums for liquidity and complexity; unsophisticated, ill-advised investors probably won't.

"There is only one thing more painful than learning from experience, and that is not learning from experience."
—Laurence Johnston Peter (1919-1990) of Peter Principle fame

"Knowledge is a process of piling up facts; wisdom lies in their simplification."
—Martin Henry Fischer (1879-1962), German-born American physician and author

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[1] "Global Asset Management 2013: Capitalizing on the Recovery," The Boston Consulting Group, July 2013.

An environment of negative real interest rates is obviously a period that favours negative compounding (in real terms) rather than positive compounding. Inflation and negative real interest rates are a good example. If (a true and credible measure of) inflation is 2% and the safest yield is 1%, then the rate at which capital compounds more or less safely—the "sitting-there-doing-nothing-yield"[2]—is -1% in real terms.

It is a historical fact that both equities and bonds can compound negatively in real terms for a very long time. Tail risk from equity investments is in the investors' collective mind and memory because many equity markets have tanked twice in the last decade. However, the risk of negative compounding bond investments is not really contemplated. The multi-year negative compounding of bonds is too far back for anyone to take note. Bond markets compounding negatively for decades is not in the econometric models either. The thought of many European institutional investors essentially having abandoned asset allocation—either willingly or regulatory-induced—for a concentrated (government) bond portfolio is arguably a scary one.

One market response to the fear of fiat money, deleveraging, and negative compounding is—rightly or wrongly—gold. As Ludwig von Mises put it:

> The gold currency liberates the creation of purchase power from the influence of politics and from the fluctuating economic philosophies held dear by changing political majorities. This is its advantage.[4]

Many institutional investors do not hold gold. However, in times where governments "overplayed their hand" with their liabilities in one form or another, gold is potentially one of the very few assets that can compound positively in real terms through a buy-and-hold strategy. At the moment, institutional investors' involvement in gold is miniscule. Value investors despise it as it has no cash flows and no proper Graham-esque valuation. It's outside of institutional financial orthodoxy. Institutional portfolios are arguably government bonds-heavy, especially in Continental Europe, thereby financing governmental folly.

Table 4 shows returns from an investment in gold in both nominal and real terms by decade. The first column measures the percentage of months whereby real 10-year US Treasury rates were below 1%.

"There hasn't been a case in history where they haven't eventually printed money and devalued their currency."
—*Ray Dalio, investment manager[1]*

"Italy is de facto already out of the euro. The country is on its knees... The northern European countries are only holding onto us until their banks have recouped their investments in Italian sovereign bonds. Then they'll drop us like a hot potato."
—*Beppe Grillo[3]*

"Gold gets dug out of the ground in Africa, or someplace. Then we melt it down, dig another hole, bury it again and pay people to stand around guarding it. It has no utility. Anyone watching from Mars would be scratching their head."
—*Warren Buffett*

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[1] "Mastering the machine—How Ray Dalio built the world's richest and strangest hedge fund," *The New Yorker*, 25 July 2011.

[2] The "sitting-there-doing-nothing-yield" is obviously a very sophisticated econometric term. The term is synonymous to "buy-and-hold".

[3] Handelsblatt, 13 March 2013

[4] From "In GOLD we TRUST," Erste Group, July 2011. Making reference to "Why Gold-Backed Currencies Help Prevent Wars" by Ferdinand Lips.

Table 4: Gold investment by decade (January 1970 – August 2013)

Decade	Percentage of months where real 10Y USD Yield below 1%	Period nominal return of Gold	Period real return of Gold
1970s	50%	1356%	627%
1980s	11%	-22%	-53%
1990s	0%	-28%	-46%
2000s	25%	281%	196%
2010s	67%	23%	15%

Source: IR&M, Bloomberg

One of the properties of gold is that it does well when "everything" else doesn't. Gold has done/is doing well when real interest rates are low. Whether real yields are low due to inflation (high inflation rates and equally high yields) or deflation (low inflation or deflation and very low yields) doesn't really matter that much. The 1970s were difficult for both equities as well as bonds. The 2000s were difficult for equities but not, thanks to the manipulation of the yield curve, for bonds. The S&P 500 Total Returns Index for example compounded at a rate of -3.4% over the 2000s with the MSCI Europe compounding at a rate of -4.5% per year in real terms. Figure 24 shows gold in real terms.

Figure 24: Gold price adjusted for US inflation
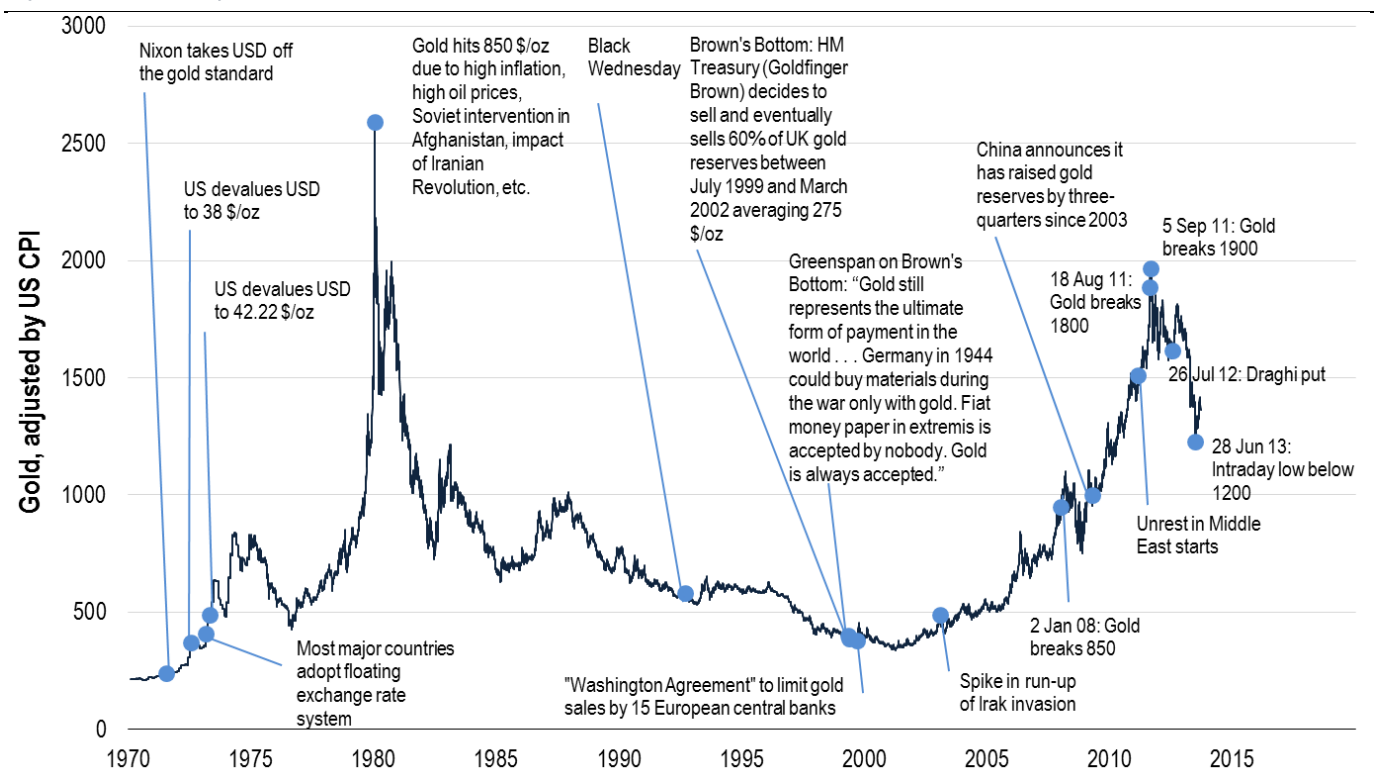
Source: IR&M, Bloomberg

■   At USD1360 in September 2013, gold was still some 47% below its all-time-high of USD850 from the January 1980 in real terms.

Uncertainty management ≠ risk management

Thinking of risk as just volatility is dangerous

Managing uncertainty and managing risk are two different concepts. Harry Markowitz in the 1950s used volatility as a proxy for risk, well aware of its shortcomings; the main shortcoming being that it makes no difference between positive and negative returns while the investor's utility from the former is materially different than the investor's utility from the latter. Using volatility as a proxy for risk allowed Mr Markowitz to prove an old idea with mathematical precision, namely the old idea of not putting all of ones eggs in one basket.

Figure 25: Model world versus real world
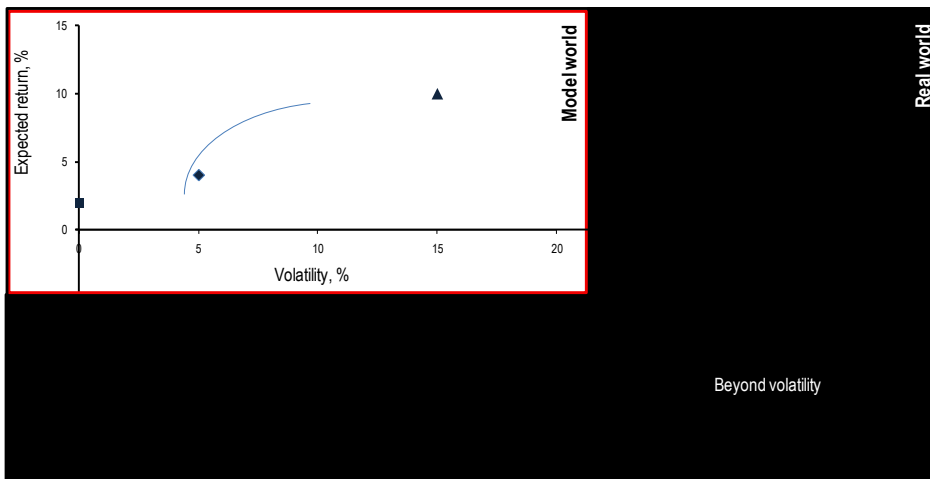
Source: Ineichen (2010)

The financial crisis has added more question marks about the role and practicability of financial economics (MPT, CAPM, correlation coefficients, etc.). Figure 25 is an attempt to visualize what we believe is becoming apparent to more and more market participants: There is a big difference between the model world and the real world. The model world was always the model world and everyone knew it. However, the difference between the model and real world is so large that one is probably better off ignoring the former (in its current form) in its entirety. US economist J.K. Galbraith's brought it to the point on page 33 of this document: "There can be few fields of human endeavour in which history counts for so little as in the world of finance." Peter Bernstein's "inescapable darkness of the future" is shown in black.

Risk measurement is not synonymous with risk management

There is a difference between risk measurement and risk management.[3] Although the two are not entirely unrelated, the underlying skill set is different. Risk measurement can be narrowly defined and is probably to a large extent objective, whereas risk management is a much broader task and is subjective by definition.

"All great truths begin as blasphemies."
—*George Bernard Shaw*

"If it were possible to calculate the future state of the market, the future would not be uncertain. There would be neither entrepreneurial loss nor profit. What people expect from the economists is beyond the power of any mortal man."
—*Ludwig von Mises[1]*

"Remember always: Risk is not about uncertainty but about the unknown, the inescapable darkness of the future."
—*Peter Bernstein[2]*

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[1] Von Mises (1996), p. 871.

[2] "Risk: The Whole versus the Parts," *CFA Magazine*, Mar/Apr 2004

[3] Robert Gumerlock, a former head of risk at Swiss Bank Corporation and O'Connor, on risk measurement: "When O'Connor set up in London at Big Bang, I built an option risk control system incorporating all the Greek letters – deltas, gammas, vegas, thetas and even some higher order ones as well (the delta of the gamma and the gamma of the vega). And I'll tell you that during the crash it was about as useful as a US theme park on the outskirts of Paris." From Alexander, Carol (1996) "The Handbook of Risk Management and Analysis," Chichester: John Wiley & Sons.

A suitable analogy is the difference between accounting and entrepreneurism. Accounting is objective (at least in the axiomatic, fraud-free laboratory environment of the actuary). However, sound accounting does not automatically result in entrepreneurial success.[2] The latter is much more complex and difficult. It requires experience, creativity, intelligence, passion, drive, luck, etc. Most importantly, founding and running a business successfully is subjective. There is a consensus as well as objective guidelines to do accounting. However, there is more than one approach that leads to entrepreneurial success (most of which, potentially, are not taught at business school). To complete this analogy: risk measurement is similar to accounting where an inflexible approach (rules and guidelines) has merit, as the task requires objectivity and transparency. Risk management on the other hand requires a more flexible approach, is entrepreneurial in nature, and subjective by definition.

"Many people who are smart, articulate and admired have no real understanding of business. That's no sin; they may shine elsewhere."
—*Warren Buffett[1]*

Risk management is at least as much a craft as it is a science. A craftsman needs a combination of skills, that is, a balance between outright knowledge and street smartness (tricks of the trade) to execute his job successfully. One could argue that this combination of skills goes far beyond, for example, econometric modelling of (historical) risk factors, or the abstract theorising under laboratory conditions. Risk—or, to use a more appropriate term, uncertainty—is about what you don't know, not about what you know.

"I am enough of an artist to draw freely upon my imagination. Imagination is more important than knowledge. Knowledge is limited."
—*Albert Einstein*

The recent financial crisis was caused by too much debt. The authorities' solution? More debt. Local regulation has largely failed. The authorities' top priority? More regulation and expanding regulation globally. The complexity of risk management models was part of the problem. The authorities' solution? More complex models. This is clearly going the wrong way. We ought to simplify. As John Kay from the FT put it:

"Computers are useless. They can only give you answers."
—*Pablo Picasso*

> We will succeed in managing financial risk better only when we come to recognise the limitations of formal modelling. Control of risk is almost entirely a matter of management competence, well-crafted incentives, robust structures and systems, and simplicity and transparency of design.[3]

That's the common sense approach to better risk management and a stronger financial system. Potentially many economies are going the other way though. CEOs of financial intermediaries are unlikely to become quantitatively literate any time soon, as Professor Andrew Lo (2010) suggested they should.[4] Not only is the science behind the models too complex, the axioms on which the science is based are wrong too. Business people will remain business people and quants will remain quants most certainly for a long time into the future. (The overlap between the two "personality profiles" is arguably small.)

"I have always found that if I move with seventy-five percent or more of the facts that I usually never regret it. It's the guys who wait to have everything perfect that drive you crazy."
—*Lee Iacocca*

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[1] Berkshire Hathaway, 2003 annual report, 27 February 2004

[2] It is somewhat like being short a put option: good accounting does not guarantee success, but bad accounting nearly certainly results in disaster. Accounting and risk measurement, therefore, are important too.

[3] "Don't blame luck when your models misfire," John Kay, *Financial Times*, 1 March 2011

[4] Lo and Mueller (2010): "Quantitative illiteracy is not acceptable in science. Although financial economics may never answer to the same standards as physics, nevertheless, managers in positions of responsibility should no longer be allowed to take perverse anti-intellectual pride in being quantitatively illiterate in the models and methods on which their businesses depend."

Institutional investors are currently beefing up their risk management capabilities partly due to increased regulation and partly due to after-the-accident-learning-experience. It is becoming increasingly apparent that some of the beliefs and assumptions, which were formed during the historic equity bull market that ended more than ten years ago, are false. Risk management (as opposed to risk measurement) deals with changing one's portfolio according to an ever-changing environment or changing rules that happened to have worked fine in the past. The future is uncertain. The only thing we really know for sure is that the status quo is going to change. Risk management, we believe, is the thought process that balances the investment opportunities with the probability of capital depreciation. This means that risk management is subjective by definition.

"Science cannot solve the ultimate mystery of nature. And that is because, in the last analysis, we ourselves are part of nature and therefore part of the mystery that we are trying to solve."
—*Max Planck (1858-1947), German theoretical physicist*

The front cover of John Adams' *Risk* depicts a black area, a small square in the lower left and an even smaller square in the upper right.[1] Adams refers to a 1983 report from the National Research Council in the United States. The report noted that about five million different chemical substances are known to exist and that their safety is theoretically under regulatory jurisdiction. Of these, about 7,000 had been tested for causing cancer (larger white square in the lower left); while fewer than 30 had been definitely linked to cancer in humans (small white square in the upper right pointed by white arrow). The proportion of the white square and dot to the black space is the same as the proportion of 7,000 tested substances and 30 discovered substances linked to cancer to the five million chemical substances. The black space Adams calls "darkness of ignorance." We just do not know the carcinogenic effects of most substances. Our knowledge is limited. The same is true in finance. We don't know much about the future. There is an extreme asymmetry between the little we know and what we don't. There is uncertainty. If you think about it this way, equating risk with volatility of traded securities becomes a rather silly endeavour.

Knight (1921) made the important distinction between 'risk' and 'uncertainty'. Risk describes situations where an explicit probability distribution of outcomes can be calculated, perhaps on the basis of actuarial data. In contrast, uncertainty describes situations where probabilities are unknown, and more importantly, where they are impossible to calculate with any confidence due to the uniqueness or specificity of the situation. Ellsberg (1961) demonstrated that most people prefer betting on a lottery where the probabilities are known to betting on lotteries with unknown probabilities, that is, there is an aversion against 'Knightian uncertainty'. Knight argued that profits should be defined as the reward for bearing uncertainty. Knight, as well as Keynes (1921), argued that not only are the outcomes uncertain, the probabilities are unknown too.
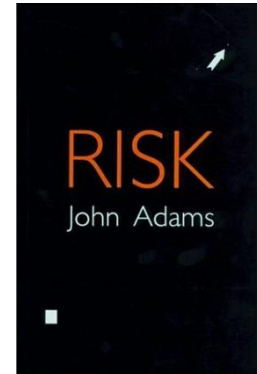
There is a difference between risk and uncertainty

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[1] The idea for Figure 25 on page 50 we obviously got from John Adam's book cover.

One important aspect of uncertainty management is the term "unknown unknowns." When discussing matters related to risk, or, more precisely, uncertainty, we assume we know the distribution from which destiny will pick future events (quite often a normal distribution is assumed). This is the reason why financial textbooks always discuss coin flipping games or examples with dice or roulette tables. In these instances, the probabilities can be exactly calculated. Uncertainty is not the same as risk. It is a term used in subtly different ways in a number of fields, including: philosophy, statistics, economics, finance, insurance, psychology, engineering and science. It applies to predictions of future events, to physical measurements already made, or to the unknown.

It goes without saying that for practical purposes, it is uncertainty that matters, not risk. We can apply rigorous quantitative analysis to matters related to risk, but not uncertainty. Many practitioners have moved away from normal distributions and pretentious mathematical precision, strongly influenced by Nassim Taleb's work[2] and the "learning by doing" experience that was the financial crisis. To deal with uncertainty requires thought and, most likely, common sense. Frank Knight argued that profits should be defined as the reward for bearing uncertainty. The relevance regarding today's environment is that the authorities are determining the risk management objectives and incentives of the banks and insurers. And because the government agents and accounting boards are led by scientific orthodoxy with its physics-envy and urge to quantify the unquantifiable, many risks are left ignored, i.e., are beyond the realm of the new rules and regulations. A misallocation of capital is the result. (European banks held many bonds of Detroit for the simple reason that they didn't need to hold any regulatory capital against those positions.) In essence, the new-and-improved regulations focus on the white square in the lower left hand corner of John Adams' wonderful book cover shown on page 54. A. Gary Shilling on regulation:

> *Increased regulation may be the natural reaction to recent financial and economic woes, but it is fraught with problems. It's a reaction to past crises and, therefore, comes too late to prevent them. And it often amounts to fighting the last war since the next set of problems will be outside the purview of these new regulations. That's almost guaranteed to be the case since fixed rules only invite all those well-paid bright guys and gals on Wall Street and elsewhere to figure ways around them. A million-dollar-a-year Wall Street lawyer will beat a regulator with a $100,000 annual salary on most days.[3]*

Most of the risk management literature is about risk measurement, not management. This was most likely a contributing factor of financial institutions becoming too comfortable with their risk measurement approaches prior to the 2008 financial crises. The mathematical complexity resulted in a communications gap between senior management and the risk measurement department, while the pseudo precision resulted in overconfidence in one's own ability to control the situation. It's unfortunate but one cannot buy a biography of Steve Jobs, program a computer, and then expect the computer to run Apple.

"There are known knowns. These are things we know that we know. There are known unknowns. That is to say, there are things that we now know we don't know. But there are also unknown unknowns. There are things we do not know we don't know."
—*Donald Rumsfeld[1]*

"One of the greatest pieces of economic wisdom is to know what you do not know."
—*Kenneth Gailbraith*

"Government regulators have never, as far as we know, stopped big bubbles or caught big crooks."
—*A. Gary Shilling*

"I would rather be vaguely right, than precisely wrong."
—*Carveth Read (1848–1931), British philosopher and logician[4]*

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[1] Press Conference at NATO Headquarters, Brussels, Belgium, 6 June 2002

[2] See for example Taleb (2001).

[3] "Insight," A. Gary Shilling, November 2010

[4] Read, Carveth (1898) "Logic," Grant Richards. Quote often misattributed to Keynes.

There are many definitions for risk. Since the financial crisis we all know that it has very little to do with VaR (value at risk). The distinction between tracking risk, i.e., underperforming a benchmark and total risk, i.e., losing money, is important. Warren Buffett's "definition" of risk in the side text is witty (as well as true, good advice, and relevant for both private as well as institutional investors). Rahl (2003) defines risk as "the chance of an unwanted outcome." The following definition is applicable to all investors irrespective of whether they are investing with an absolute returns focus or are managing money relative to a benchmark:

Risk is defined as permanent impairment of mission.[1]

This definition by an institutional consultant is unambiguous and is applicable to nearly everything. Applying it to private individuals it means that slipping in the shower and braking ones' neck is a risk while being stung by a bee is not. Applying the definition to a large bank means risk is defined as complete failure for the bank requiring a bail-out while exceeding the daily VaR by a couple of basis points is analogously equivalent to being stung by a bee. Applying the definition to pension funds it means risk is defined as not being able to service ones' current and/or future pensioners. This is the reason why simply matching assets with liabilities might not be enough. When interest rates rise, bonds and the present value of the liabilities fall more or less in tandem. This means from a benchmark perspective, there is no risk. However, from an absolute returns perspective the liabilities have not changed—just the present value of the liabilities have changed—while the portfolio has experienced losses on a mark-to-market basis as the bonds fell. (Assuming there is no hedging.) The liabilities do not fall. It is the present value of the liabilities that fall due to a lower discount rate. The present value of liabilities is an accounting measure, not a real one. Many pensioners—potentially and unfortunately—will one day find out that one cannot eat the present value of a sandwich.

A definition that withstood the test of time is the following:

Risk = exposure to change

This definition[2] is very simple and unscientific but very powerful and has stood the test of time. Risk measurement deals with the objective part. The risk measurer either calculates bygone risk factors, simulates scenarios or stress tests portfolios based on knowledge available today according to an objective (and statistically robust) set of rules. Any assessment of risk is based on knowledge that is available today. Risk, however, has to do with what we do not know today. More precisely, risk is exposure to unexpected change that could result in deviation of one's goals (such as meeting future liabilities, for example). By definition, we cannot measure what we do not know. We are free to assume any probability distribution, but that does not imply an objective assessment of risk. In other words, risk management is complex, primarily qualitative and interpretative in nature. Risk measurement, on the other hand, is more quantitative and rule-based, and has a rear mirror view by definition.

"Risk comes from not knowing what you're doing."
—Warren Buffett

One cannot eat the present value of a sandwich

Paraphrasing John Kenneth Galbraith, there are those who don't know – and those who don't know they don't know

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[1] "The wrong type of snow – Risk revisited," Towers Watson, February 2012.

[2] The source of this definition is from the education materials of Chicago-based options trading boutique O'Connor that joint ventured with Swiss Bank Corporation in the late 1980s. The definition has stood the test of time. It seems robust.

Practical relevance

'Risk' as well as 'risk management' are terms that are not clearly defined. The ambiguity of terms is arguably a challenge for the fiduciary. The regulatory and accounting standards might be out of synch with good practice thereby distorting incentives for the various investment management and governance bodies. Potentially, it's a balancing act between doing what is rightful and what is right.

***

Below we introduce—tongue-only-partially-in-cheek—PPMPT (post-post-modern portfolio theory).[1] Note that PMPT already exists. Both PMPT and MPT propose how rational investors should use an optimizer to construct their portfolios. PPMPT doesn't require an "optimizer" and assumes investors are not rational but human and implicitly recommends binning all science that assumes investors are rational and not human. The funny thing is, of course, assuming humans are human, and not rational, is actually more rational.

"Seriousness is the only refuge of the shallow."
—*Oscar Wilde*

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[1] This section draws on material in Ineichen (2010)

The response

"I think there is a profound and enduring beauty in simplicity, in clarity, in efficiency. True simplicity is derived from so much more than just the absence of clutter and ornamentation. It's about bringing order to complexity."
—Jony Ive, Senior VP Design, Apple[1]

A pragmatic response to institutional challenges

Post-post-modern portfolio theory (PPMPT)

Post-modern portfolio theory (PMPT)[2] seeks to improve modern portfolio theory (MPT) to focus on a target return on the assets to meet some future payout and a distinction between upside and downside volatility. However, PMPT still seeks to optimize. We herein suggest PPMPT. One aspect of PPMPT is to forget the idea that the future can be 'optimized', but instead address more or the challenges discussed in this document. An alternative to mean-variance optimization therefore, could be the following circular three-step process for asset allocation:

1. Invest only in investment choices you understand.

2. Determine allocation based on idiosyncratic preferences and constraints[3], and rebalance portfolio regularly.

3. Adapt to change, learn continuously, seek new sources of returns, and re-evaluate allocation regularly. Go to 1.

This simple approach would be consistent with four pieces of wisdom we value above all else:

1. "Risk comes from not knowing what you're doing." (Warren Buffett)

2. "Investment is by nature not an exact science." (Benjamin Graham)

3. "A safe investment is an investment whose dangers are not at that moment apparent." (Lord Bauer, economic advisor to Margret Thatcher)

4. "The essence of investment management is the management of risks, not the management of returns." (Benjamin Graham)

"The business schools reward difficult complex behaviour more than simple behaviour, but simple behaviour is more effective."
—Warren Buffett

"Simplicity is the keynote of all true elegance."
—Coco Chanel

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[1] iOS7 trailer, apple.com

[2] See Wikipedia for history of this term.

[3] Once the "rational mean-variance optimising" investor puts all his constraints into the optimizer, the optimizer often suggests a portfolio that pretty much resembles the investor's pre-optimization intuition and preferences anyway.

We could argue that to some extent PPMPT's three-stage process is already partially in place in practice and that these four nuggets of wisdom are actually accounted for when investing in something new, such as hedge funds 10-12 years ago or farm land or infrastructure projects more recently. Many institutional investors—sort of—already ignore the result from a mean-variance optimizer. In the case of hedge funds for example the optimizer suggested, 10-12 years ago, an unpractical high allocation. (At the time, hedge fund indices had high Sharpe ratios and therefore did well in a mean-variance setting.) In many other cases there is no data or the asset or asset class doesn't fit into an optimizer due to illiquidity.

"Simplicity is the ultimate sophistication."
—*Leonardo da Vinci[1]*

The first allocation of the institutional investor is typically small despite what any econometric model might suggest. This first investment is the institutional investor's proverbial toe dipped in the water after moving up the learning curve and getting comfortable with the "new" source of return. In a nutshell, PPMPT is a description of how some institutional investors already operate; sort of.

Institutional investors dip their proverbial toes into the water when faced with a new opportunity, disregarding any econometric input

Below we add some colour to these four nuggets of wisdom related to understanding, science, uncertainty and risk.

1. Understanding or not knowing what you're doing

Saying one ought to have a common sense to investments or only invest in things one understands is of course a bit fluffy, the term 'understanding' being subjective, somewhat ambiguous, and econometrically not quantifiable. Quoting successful investors on their wisdom is only a semi-satisfactory way around that; the term 'wisdom' being easily ridiculed and 'common sense' apparently being available in abundance.[3] Nevertheless, David Swensen, CIO of the Yale endowment fund, author of *Pioneering Portfolio Management* and during the early parts of the 2000s promoter-in-chief of private equity investments, suggests investors ought to know what they do:

"Before I took any jump, I always understood every risk."
—*Evel Knievel (1938-2007), American motorcycle stuntman[2]*

> *You should invest only in things that you understand. That should be the starting point and the finishing point.[4]*

Whether Mr Swensen was paraphrasing Evel Knievel we don't know. Common sense such as 'one ought to know what one is doing' belongs to the heritage of civilised man. We wouldn't be surprised if we could trace it back to the beginnings of human civilisation; as for example Gautama Buddha (563-483 BC), founder of Buddhism, put it:

"Common sense is the genius of humanity."
—*Johann Wolfgang Von Goethe (1749-1832), German author*

> *Believe nothing, no matter where you read it, or who has said it, not even if I have said it, unless it agrees with your own reason and your own common sense.*

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[1] There is a dispute as to Leonardo Da Vinci actually having said that; the quote cannot be sourced. "Simplicity is the ultimate sophistication" was used as an early slogan at Apple Computer in 1977 (introduction of the Apple II personal computer), but no published occurrence of such an attribution has yet been located to Da Vinci.

[2] From a BARRA advertisement

[3] René Descartes: "Common sense is the best distributed commodity in the world, for every man is convinced he is well supplied with it." For the sake of this argument, we side with Voltaire: "Common sense is not so common." ("On dit quelquefois, le sens commun est fort rare; que signifie cette phrase?" *Sens Commun, Dictionnaire philosophique*, 1764-5.)

[4] Lunch with the *Financial Times*: David Swensen, 8 October 2009

Corporate governance structures require the agent to have a certain level of understanding; the "prudent expert rule" is one example of this idea. This is a good thing. However, it also implies that "alternative investments" is not for everyone. (There is not "enough" for everyone, anyway; see Figure 26.) Note that during the financial meltdown of September 2008 both sophisticated *as well as* unsophisticated investors were liquidating illiquid alternative investments in an inordinately fashion with the most inopportune timing. With "unsophisticated" we mean an investor whereby laypeople are part of the strategic asset allocation decision making process. A pension fund for example can have highly sophisticated investment professionals running the fund but if the board with its trustees doesn't *understand* what they're doing, it is the board that is the weakest link. (Your author is well aware that it is a bit tricky to brand someone or an investment committee as "unsophisticated". Quite often one gets the impression that "unsophisticated" is someone who has a different opinion than oneselves. Having conducted thousands of meetings with institutional investors over the past 20+ years, your author is quite confident that not all investment committees are created equal; despite the implied superficiality of the statement and the potential political incorrectness that comes with it.)

"Species, people, firms, governments are all complex entities that must survive in dynamic environments which evolve over time. Their ability to understand such environments is inherently limited."
—*Paul Ormerod, British economist[1]*

Figure 26: Private Equity and Hedge Funds compared to other pools of assets (2012)
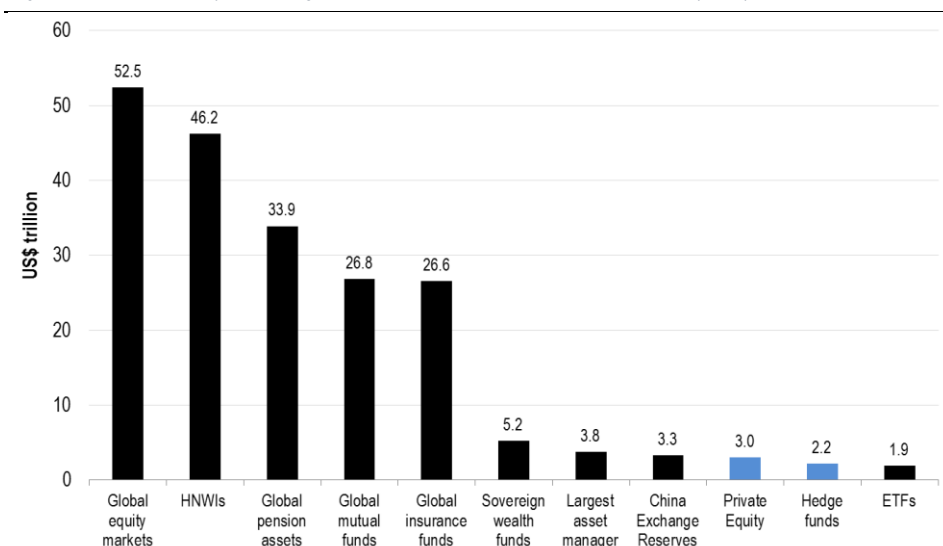
Source: IR&M, Bloomberg, TheCityUK, ICI, Capgemini/RBC Wealth Management, SWF Institute, Preqin, Hedge Fund Research, BlackRock: Note: There is overlap between these pools.

The relationship between understanding and the simplicity referred to earlier was most aptly but by Edward De Bono, author of *Six Thinking Hats*:

> *Simplicity before understanding is simplistic; simplicity after understanding is simple.*

The practical relevance is that simpler processes should increase the quality of mostly heterogeneous investment committees. Gone are the days, one would think, were investment committees are blinded by fancy math and pseudo-scientific proofs no one really understands.

"Common sense is the very antipodes of science."
—*Edward B. Titchener (1867-1927), English psychologist*

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[1] Ormerod (2006), p. 221.

2. Science versus common sense

Many financial professionals were educated in MPT. The reason why many financial professionals were educated in MPT is because it is the scientific consensus, derived from applying the scientific method. The reason why contemporaries take science seriously is because it took (some of) us out of the Dark Ages, allowed us to live to 80, put a man on the moon, and brought us foot tanners. As Ludwig von Mises put it:

Education rears disciples, imitators, and routinists, not pioneers of new ideas and creative geniuses. The schools are not nurseries of progress and improvement, but conservatories of tradition and unvarying modes of thought. The mark of the creative mind is that it defies a part of what it has learned or, at least, adds something new to it. One utterly misconstrues the feats of the pioneer in reducing them to the instruction he got from his teachers. No matter how efficient school training may be, it would only produce stagnation, orthodoxy, and rigid pedantry if there were no uncommon men pushing forward beyond the wisdom of their tutors.[2]

It is not entirely unthinkable that "creative mind" is more valuable in the current market environment than is "orthodoxy". Harry Markowitz apparently had chosen a 50/50 allocation between equities and bonds in his retirement account despite knowing, in theory, that he should have estimated the returns and volatilities and the (historical) co-variances of the asset classes, determine the efficient frontier and invest accordingly. It seems Markowitz—with his own money—was following the piece of wisdom from the Talmud mentioned earlier (page 23) as well as the wisdom in the first side text of this paragraph. Why many investors rely on unstable historical returns, unstable volatilities and very unstable correlation coefficients when making investment decisions, we do not know. (Well, actually we do know: it's the scientific method of doing these things; and that means it's the *sine qua non* of managing ones' career risk.) Mr Markowitz apparently knew that his theories are theories and are better left as such. However, the investment world as well as the accounting-rules-and-capital-requirement-determining world has put this theory into practice. Who can safely say that a 50/50 allocation to equities and bonds—essentially a strategy of *least regret*—is less intelligent than a 70/30 or 20/80 allocation for the next ten years? Or phrased slightly differently, who can safely, intelligently, and convincingly argue that an equal 20% investment in listed equities, private equity, bonds, real estate, and hedge funds is inferior to anything else that pops out of an optimizer. Who?[4]

Figure 27 shows four two-asset portfolios indexed at USD100 in January 1995 comprised of only equities and bonds. The first portfolio is an annually-rebalanced mean-variance portfolio whereby the minimum weight to any one asset class was set to 20%. The other three portfolios have static weights of 20%, 50%, and 70% to equities, also annually rebalanced.

"Some things must be done on faith, but the most dangerous kind of faith is that which masquerades as "science." As the pretense of science has replaced common-sense experience, we have abandoned many old-fashioned practices that worked in favor of high-sounding innovations that have led to disaster."
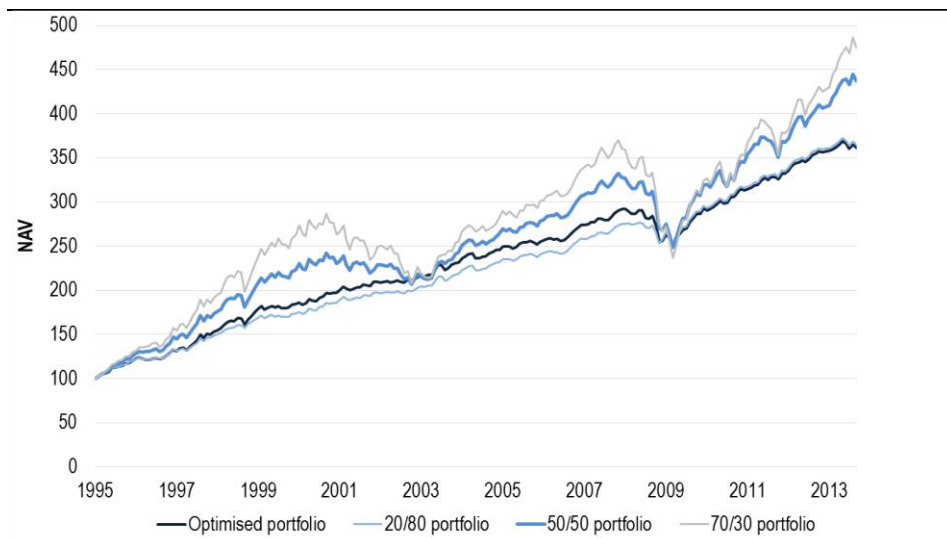—*Thomas Sowell[1]*

"When sophistication loses content then the only way of keeping in touch with reality is to be crude and superficial."
—*Paul Karl Feyerabend (1924–1994), Austrian-born philosopher of science*

"Common sense trumps minutea." [3]
—*From IR&M's investment philosophy, www.ineichen-rm.com*

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[1] Sowell (1993), p. 14.

[2] Von Mises (2007)

[3] Conceptually from The Gartman Letter

[4] Note here that there currently is a debate in the academic journals as to whether an equally weighted portfolio is superior to an optimized portfolio or not. For the purpose of our line of argument, it is sufficient to *know* that there is a debate. The fact that there is a debate tells us that we cannot really *know* for sure whether a 50/50 allocation makes sense or not? Our 50/50 statement, therefore, is naive (and to MPT aficionados potentially vulgar) but not as naive as it initially sounds.

Figure 27: Mean-variance optimized US portfolio compared with three fixed-weight portfolios

Source: IR&M, raw data from Bloomberg
Indices: S&P 500 TR Index, Barclays US Aggregate TR Index. Optimized portfolio: Mean-variance optimization based on monthly data of 5-year historical returns, 5-year historical volatility, 5-year correlation, annually rebalanced, minimum of 20% allocation to any asset class at time of rebalancing.

■ The optimized portfolio compounded at a rate of 7.1% and took USD100 to USD361 from January 1995 to August 2013. That is nearly identical to the fixed-weighted 20/80 portfolio that ended at USD364. The funny thing is that the optimized portfolio had a higher volatility of 4.9% which compares to 4.2 of the 20/80 portfolio. The optimized portfolio quite often had a weight of 20% to equities (our constraint) as the optimizer "dislikes" low-Sharpe-ratio long-only equities. Or does it not?

■ We did the same exercise with Japanese equities and bonds.[1] The optimized portfolio went from JPY100 to JPY169 over the 18+ year period thus compounding at an annual rate of 2.8%. However, the equities allocation was always at 20%, as defined by our constraint. (As mentioned elsewhere in the document, it is mainly the constraints that determine the final result.)

■ Note that as of March 2009, all four portfolios shown in Figure 27 have nearly identical performances. (A cynical cancer researcher could argue that smart people should start thinking about solving cancer rather than thinking about optimising financial portfolios quantitatively. Another cynical cancer researcher might argue that this already happened some time ago.)

■ The 50/50 portfolio in the US went from USD100 to USD437, compounding at 8.2% thus outperforming the optimized portfolio, albeit with somewhat higher volatility and drawdowns. The 50/50 portfolio in Japan went from JPY100 to JPY146, compounding at 2.0% and thereby underperforming the "optimized" portfolio.[2] The key determinant, therefore, is strategic asset

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[1] Based on Topix TR Index and Bank of America Merrill Lynch Japan Government TR Index.

[2] Note that the USDJPY cross rate was nearly at exactly the same level in January 1995 as it was in August 2013. The same is true for the consumer price level in Japan. However, US consumer price inflation was 2.4% per year over the 1995 to August 2013 period which narrows the difference between the two when compared in inflation-adjusted terms.

allocation, i.e., the constraints and boundaries rather than quantitative minutea and pseudo-precision.[1]

The practical relevance of all this is that the institutional investor faces various challenges and that there are more important things to do than fiddling around with an optimizer. New sources of return are not found by applying science. Assessing new investments requires common sense[2] (because data is often not available) rather than science; an entrepreneurial and business-like mindset that is almost the opposite of the theoretical or empirical work of the scientist. (Applying science is still good for controlling the downside of one's corporate career though.)

3. Uncertainty, sand piles, dominos and snowballs

A poor track record of economic forecasting does not imply randomness. American professor Robert Engle was awarded the 2003 Nobel Memorial Prize in Economic Sciences mainly for his research on ARCH (autoregressive conditional heteroskedasticity). In a nutshell, the key concept is that many financial assets do not move randomly from a regime of low risk to a regime of high risk. Rather, a low volatility environment begets more low volatility and high volatility begets more high volatility. In other words, once a storm starts to build it will not just disappear. More likely, it will build up, reach its climax, and then revert to the previous state.

This concept is important for investors: it means there are times or states or regimes when financial conservatism is more important, or more acute; and there are periods when "all is well" and hedging not a top agenda item. The exception to the rule is a sudden exogenous shock, like for example 9/11. However, much geopolitical risk is "trending". It starts with tensions and slowly builds up, culminates at one stage and then levels off. The two world wars are examples of this. It is fair to say that currently there is 'tension'; partially related to geopolitics and partially related to too much debt and the way the different authorities are handling the situation. Over the past five years it has become apparent that it is not only exogenous shocks that matter, a lot of the current malaise and uncertainty is endogenous. It is not related to an Austrian painter running amok in Europe but to cracks, friction and tension within the financial system itself that are the cause for the current uncertainty and difficult investment environment. Some of the uncertainty emanates from within.

In physics, the so-called sand pile model is the first discovered example of a dynamical system displaying what is referred to as *self-organized criticality* and is named after Per Bak, Chao Tang and Kurt Wiesenfeld. The concept is easily visualised by imagining dropping grains of sand one by one on the beach. The pile builds up slowly into a little sand mountain. Once the slopes reach a certain

"It is quality rather than quantity that matters."
—*Seneca the Younger (ca. 3 BC – AD 65), Roman Stoic philosopher, statesman, orator, and tragedian and tutor to Nero*

"Most coming events cast their shadows before, and it is on this that intelligent speculation must be based."
—*Arthur Zeikel[3]*

Tension and friction are not random

"How do we know that the creations of worlds are not determined by falling grains of sand?"
—*Victor Hugo, Les Miserables[4]*

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[1] The US 50/50 portfolio outperformed Japan's because in the US the equity risk premium was positive while it was negative in Japan. A hasty conclusion—but one that should give pause for thought—is that the strategic allocation to equities should be high in economies where demographics are favourable and society is heterogeneous and is therefore adaptive. The strategic allocation to equities should be low in economies where demographics are unfavourable and society is homogeneous and is therefore maladaptive. (Or "toast" in the vernacular of some market pundits.)

[2] If it weren't so blatantly self-serving, we would have said research is required too.

[3] Zeikel, Arthur (1988) "On Thinking," *Financial Analyst Journal*, May-June, pp. 11-17.

[4] Bak (1996), p. v.

steepness, dropping new grains on top can trigger an avalanche. Before this point, the grains are held in place on the slopes by friction, which prevents them from sliding. At one stage, friction is no longer able to restrain the motion, and an avalanche occurs.[1] Once a grain starts to move, it collides with others, triggering a kind of *domino effect*. This process might stop or not. It might run its course after only a few dozen grains have rolled down the mountain. However, it might continue and get progressively large (worse) akin to the *snowball effect*.

Big avalanches are less frequent than little ones, but avalanches of all sizes are possible.[2] The fluctuations of the pile, therefore, are scale free. The pile can be considered to exist in a critical state. However, the critical state is not in equilibrium where all is well. The sand pile game describes a non-equilibrium situation as new grains are constantly being added.

> *Each avalanche releases 'tension' in the pile, lowering the angle of the slope and restoring stability. But only just. The avalanche merely returns the pile to the brink of sliding, so that the very next grain that is added could trigger another landslide. So the sand pile hovers around this state of precarious stability, never deviating far from it. Rather than the pile being liable to collapse irretrievably, the critical state is constantly resurrected after each avalanche. This is why the critical state is said to be self-organized.* [3]

The most obvious real-world sand pile example is an earthquake. Like financial markets, economies and societies, the Earth's crust is always in flux. It's not in equilibrium. Stresses are being built up constantly. Every now and then stresses are released but only just enough to restore stability. Then the pressures begin to build up again. Usually the stress is released in small doses, causing minor tremors. But every so often there is a catastrophic release and disaster strikes.[4] Social events also follow a power law distribution. War sizes for example are power-law distributed.

This is not unlike an economic collapse of some sort, where the market clears and fortunes recover. It is no coincidence that Germany and Japan turned out to be the second and third largest economies after WWII. The so-called *economic miracle* is actually not a miracle but a combination of the opportunity to start afresh and the influx of huge amounts of foreign (cheap) capital. The current political regime and intelligentsia has a tendency to prevent markets from clearing and thereby the phrase *kicking the can down the road* becoming the most used phrase when discussing economic circumstances. Even in professional cycling, a huge dosage of stimuli only works in the short-term; long-term effects are deteriorative and embarrassing.

"If an elderly but distinguished scientist says that something is possible he is almost certainly right, but if he says that it is impossible he is very probably wrong."
—*Arthur C. Clarke (1917-2008), British science fiction author*

Earthquakes follow a power law distribution

Governmental intervention in markets can prevent small avalanches in exchange for bigger ones that lurk further down the road

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[1] From Ball (2004), p. 296.

[2] Ibid., p. 298.

[3] Ibid., p. 298.

[4] Ibid., p. 299.

Orthodox financial economics has a tendency to think in equilibriums. This is how the random walk and normal distributions originally emanated. In equilibrium all is well and history has no meaning. However, the sand pile game might describe the real world better than orthodox financial economics. Science writer Mark Buchanan coined the term "ubiquity" in relation to applying the sand pile game to nearly everything, atoms, molecules, species, people, financial markets, etc.[2]

The power laws work in the short term as well as the long term. Extinction events for example also follow a power law distribution where large events, such as the *Cretaceous* extinction of dinosaurs and many other species, occur with fairly well defined probability and regularity. Wealth and prosperity change over time too. Empires and civilisations come and go. Sometimes, it seems, civilisation grandness occurs more than once at the same place. Italy was great, not once but twice over the past 2,000 years. Istanbul was the epicentre of culture and trade not once, but three times in the past. Mean reversion doesn't always work though. Greece and Egypt were once great. No more; no reversion to the mean by the current looks of it. Civilisations can also vanish completely. Examples are the Mayas or the population of the Easter Islands. The main reason for a civilisation to die is living beyond its means. Sounds familiar, no?

Vladimir Lenin once mused:

> *There are decades when nothing happens; and there are weeks when decades happen.*

This quote is somewhat related to the sand pile game: sometimes nothing happens but then all of a sudden the whole pile is flattened in one go. It is also somewhat related to the aforementioned ARCH idea. The practical relevance is not to try and predict the sand grain that triggers the big avalanche but to know in which regime or state one is.

So here's what we know:

- Something trivial can trigger an avalanche, a tornado, or a severe event; like a grain of sand or the most famous butterfly flapping its wings in the amazon thereby "causing" a tornado in Texas. (Chaos theory.)
- The "trivial trigger" can trigger something else which then triggers the next trigger. A textbook example is how a short circuit of the coffee maker on a commercial airplane can initiate a chain reaction that results in the plane crashing. (Domino effect.)
- The falling dominos <u>can</u> develop in something big, damaging and unpleasant. (Snowball effect.)
- Small avalanches are more likely than large ones. However, if tensions have been building up for a long time and the sand pile has been artificially prevented from clearing, chances for a big avalanche are <u>enhanced</u>.

"We are not far from the point where the deliberately organized forces of society may destroy those spontaneous forces which have made advance possible."
—*Friedrich Hayek in 1960[1]*

Collectively living beyond ones means is potentially akin to the dropping of grains of sand in the sand pile game

"I don't see (subprime mortgage market troubles) imposing a serious problem. I think it's going to be largely contained."
—*Hank Paulson in 2007[3]*

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[1] Hayek, Friedrich (1960) "The case for freedom," The Freeman, Volume 10, Issue 10, October.

[2] See Buchanan (2000)

[3] "Treasury's Paulson - subprime woes likely contained," *Reuters*, 20 April 2007

It is this enhancement that is the practical relevance for investors today. Something has to give. Herbert Stein's Law applies. We _do not know_ the original grain of sand or butterfly's wing flap and when it might occur. However, we do know that trivial events can trigger bad outcomes when tensions are high, i.e., when there is pressure and cracks in the system. We _do know_ that anything is possible.

“Part of probability is that the improbable can occur.”
—_Aristotle_

4. Risk management

Hubbard's (2009) short definition of risk management is: "Being smart about taking chances." We believe that a lot that has been written in the field of risk _management_ is focused on risk _measurement_, as mentioned earlier. The typical method (factor and style analysis) is to model historical time series and come up with some risk factors that explain some of the historical variation in returns. While this is all very interesting, it only covers a small part of the complexities of risk management. Why?

"Since the mathematicians have invaded the theory of relativity, I do not understand it myself anymore."
—_Albert Einstein_

Sharpe ratios are really marketing gimmicks and volatility is—and this is putting it very nicely—an incomplete measure for risk. Risk is not perceived as volatility. Institutional investors do not perceive volatility as risk, private investors do not perceive volatility as risk; even relative return managers do not perceive volatility as risk. Losing large chunks of one's capital, on the other hand, is more like it. Recent financial history has shown that at the end of the day it is losses that matter most. Risk, therefore, becomes the probability of what matters most, i.e., losses and/or non-survival. Another way of putting it is defining risk as "exposure to accidents." The problem with accidents in finance is that they do not seem to be spread out evenly over time; quite to the contrary, they seem clustered. Take sovereign defaults for example: there is indeed such a thing as a domino-effect. Sovereign defaults do not occur one at a time evenly spread over time. They are contagious and occur in a bundled fashion. As risk managers wishing to survive this episode of finance, we need to become students of history, rather than disciples of MPT. (We need—unfortunately—also become students of back-against-the-wall-welfare-state-politics too.)

“The important thing in science is not so much to obtain new facts as to discover new ways of thinking about them.”
—_Sir William Bragg (1862-1942), British physicist and winner of the 1915 Nobel Prize in Physics_

One aspect of accidents is that they are said to be surprising by definition: if they were predictable, they wouldn't occur. This logic might apply to slipping on a banana skin. However, this logic doesn't necessarily apply to finance. The introduction of the Euro for example is an accident that is unfolding as we speak. It just took a while until it became apparent to everyone; well, nearly everyone. An investor has the choice to participate in the accident or hedge or invest elsewhere. Japan is not yet an accident but is one in the making due to its current debt levels and unfavourable demographic trends; or is, as author John Mauldin likes to put it, a "bug in search of a windshield." (We could also argue that the stock market is a leading indicator and has anticipated the demographic/debt accident by declining for 20+ years.)

“Europe: museum of old people doing nothing.”
—_Peter Thiel, founder of paypal[1]_

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[1] GAIM conference, Monaco, 19 June 2012

It goes without saying that losses matter more to owners of capital than it does for the agents managing the capital. (The agents do care about their own capital though.[2]) The idea of marrying the owner's capital with that of the managing agent is currently gaining traction. This can take various forms from investor's taking a stake of the asset manager's business to co-investment in private equity, infrastructure and real estate.

"After all, who ever washes a rental car?"
—Warren Buffett[1]

The notion occasionally found in mission statements of the financial services industry along the lines "we put our client's interest before our own" or a variant thereof is—in our opinion and for all practical purposes—unnatural. All species—including those inhabiting the financial services habitat—are programmed to survive. When the going gets tough, the tough get going to saving their own bacon first. All individuals and corporate entities want to survive; even vegetables want to survive. It is for this reason that air line pilots are not allowed to carry parachutes on board. At one level the financial crisis was an interesting episode for studying the behaviour of humans, corporates, sovereigns, etc. when non-survival becomes more probable. The only way—again, in our opinion—for the principal to have his interests aligned with the agent is to team up with the agent financially; by being "on board", so to speak.

"Self-preservation is the first law of nature."
—Proverb[3]

The reason for mentioning hypothetical bugs on a fast approaching windshield is our belief that risk management is a thought process rather than a quantitative exercise. Risk *measurement*, one could argue, is a quantitative exercise. If risk management is indeed a qualitative exercise where thoughtfulness matters, it is healthy to think about what could wrong, even if that leads us away from MPT, VaR, and alphas and betas for a moment. As Ludwig von Mises put it:

> *Reason's biological function is to preserve and promote life and to postpone its extinction as long as possible. Thinking and acting are not contrary to nature; they are, rather, the foremost features of man's nature. The most appropriate description of man differentiated from nonhuman beings is: a being <u>purposively</u> struggling against the forces adverse to his life." [5]*

"Investors should be sceptical of history-based models. Constructed by a nerdy-sounding priesthood using esoteric terms such as beta, gamma, sigma and the like, these models tend to look impressive. Too often, though, investors forget to examine the assumptions behind the symbols. Our advice: Beware of geeks bearing formulas."
—Warren Buffett[4]

As the late Peter Bernstein put it in the last chapter of *Against the Gods*:

> *"Nothing is more soothing or more persuasive than the computer screen, with its imposing arrays of numbers, glowing colors, and elegantly structured graphs. As we stare at the passing show, we become so absorbed that we tend to forget that the computer only answers questions; it does not ask them. Whenever we ignore that truth, the computer supports us in our conceptual errors. Those who live only by the numbers may find that the computer has simply replaced the oracles to whom people resorted in ancient times for guidance in risk management and decision-making."[7]*

"Visibility is never what we think it is. Uncertainty is a constant, not a variable, and we never know the future—so in the long run is inescapably a frail reed to lean on."
—Peter Bernstein[6]

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[1] Berkshire Hathaway, annual report, 2003

[2] A small anecdote: Your author witnessed more than once, when listening to a benchmarked, relative return manager explaining his investment philosophy, the manager add in the end: "I, of course, would never do this with my own money."

[3] This proverb can be traced back to Cicero and, most likely, is much older than that.

[4] Berkshire Hathaway, 2008 annual letter to shareholders, 27 February 2009

[5] Human Action, Von Mises (1996), p. 882. Emphasis in the original.

[6] "Throw Out The Rulebook!" Interview with Peter Bernstein, welling@weeden, Vol. 5, Issue 4, 28 February 2003

[7] From Bernstein (1996), p. 336

Another reason to think a bit out-of-the-box when contemplating risk is that sometimes Murphy's Law applies. Sometimes it happens that you have a weak economy *and* are hit by an earth quake *and* by a tsunami *and* have a nuclear disaster all at the same time.

The practical relevance and bottom line of this section is that Benjamin Graham was probably onto something when he said that our profession is about managing risk not returns. We believe most readers will agree that risk in today's investment environment is multi-faceted. For the financial services industry that is catering to the institutional investor this gives rise to new opportunities in terms of co-investment and advisory. All entities need to adapt to the new environment. The alternative to adapting rhymes with frying.

Practical considerations

The practical implication of this three-step approach of PPMPT would be that the less sophisticated institutional investor would have a 50/50 allocation to equities and bonds for the part of the portfolio that is not held in cash.[3] The advantage would be the simplicity and the layperson's good-night sleep. The disadvantage would be that it isn't a very good portfolio. Speculating a bit, arguably tongue-firmly-in-cheek, it is possible that the less sophisticated investor has only two bad options: (1) A by today's standards poorly balanced portfolio (of which 50/50 is just one example; albeit an intuitive one), or (2) copying more sophisticated investors thereby not knowing what they're doing, being last to invest in the latest idea, and quite likely being exposed to the third and fourth quartile product providers. If this argument has at least some merit, option (1) would be the better of the two bad options and therefore be more intelligent as well as more prudent. This portfolio would have the added benefit that its implementation and running costs are virtually zero, say a TER of 0.2%-ish.

This is potentially a step too far in our current simplicity-is-the-ultimate-sophistication mode. However, wouldn't it be intellectually more honest for an investor who knows that its set-up is suboptimal and who knows that it is *not* connected to and *not* in the information loop of the prime providers to seek a *simple* strategy that is *cheap* to implement? It is possible that some institutional investors are best advised to go the route that resembles the asset allocation of the *Yale Endowment Fund*.[4] (See Figure 28.) However, we doubt that such an equity and alternatives heavy portfolio works for all. Even ivy-league endowment funds have the occasional riff with their stakeholders. An illiquid institutional portfolio with large components to equities and/or non-traditional assets requires an investment office that understands what it is doing as well as a board who understands what the investment office is doing. This essentially means: "it's not for everyone."

> **"Disorder tends to increase with time if things are left to themselves."**
> —*Stephen Hawking[1]*

> **"The only sure thing about luck is that it will change."**
> —*Bret Harte (1836-1902), American author*

> **"To invest successfully over a lifetime does not require a stratospheric IQ, unusual business insight, or inside information. What's needed is a sound intellectual framework for decisions and the ability to keep emotions from corroding that framework."**
> —*Warren Buffett[2]*

> **"I've been imitated so well, I've heard people copy my mistakes."**
> —*Jimi Hendrix*

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[1] A Brief History of Time, 1992 documentary by Errol Morris

[2] Preface to Benjamin Graham's book *The Intelligent Investor, Fourth Edition*

[3] In areas where real estate is not an "alternative investment" this would mean one third each in equities, bonds and real estate.

[4] See Swensen (2000)

Figure 28: Asset allocation of Yale Endowment Fund (1997-2012)

(%)	Liquid	Nontrad.	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average*
									Fiscal Year ending June 30										
Asset classes																			
Fixed Income	✓		12.1	10.1	9.6	9.4	9.8	10.0	7.4	7.4	4.9	3.8	4.0	4.0	4.0	4.0	3.9	3.9	6.8
Domestic Equtiy	✓		21.5	19.2	15.1	14.2	15.5	15.4	14.9	14.8	14.1	11.6	11.0	10.1	7.5	7.0	6.7	5.8	12.8
Foreign Equity	✓		12.6	12.1	11.1	9.0	10.6	12.8	14.6	14.8	13.7	14.6	14.1	15.2	9.8	9.9	9.0	7.8	12.0
Natural Resources**		✓	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	10.4	11.5	8.8	8.7	8.3	9.5
Private Equtiy		✓	19.6	21.0	23.0	25.0	18.2	14.4	14.9	14.5	14.8	16.4	18.7	20.2	24.3	30.3	35.1	35.3	21.6
Real Assets***		✓	11.6	13.0	17.9	14.9	16.8	20.5	20.9	18.8	25.0	27.8	27.1	18.9	20.6	18.7	20.2	21.7	19.7
Absolute Return		✓	23.3	27.1	21.8	19.5	22.9	26.5	25.1	26.1	25.7	23.3	23.3	25.1	24.3	21.0	17.5	14.5	22.9
Cash	✓		-0.7	-2.5	1.5	8.1	6.2	0.3	2.1	3.5	1.9	2.5	1.9	-3.9	-1.9	0.4	-1.1	2.7	1.3
Allocation biases																			
Equity-related****			77.0	79.4	71.0	67.7	67.2	69.1	69.5	70.2	68.3	65.9	67.1	70.6	65.9	68.2	68.3	63.4	69.3
Nontraditional			54.5	61.1	62.7	59.4	57.9	61.4	60.9	59.4	65.5	67.5	69.1	64.2	69.2	70.0	72.8	71.5	64.2
Liquidity																			
Liquid			45.5	38.9	37.3	40.6	42.1	38.6	39.1	40.6	34.5	32.5	30.9	25.4	19.3	21.2	18.5	20.2	32.8
Quasi-illiquid			23.3	27.1	21.8	19.5	22.9	26.5	25.1	26.1	25.7	23.3	23.3	25.1	24.3	21.0	17.5	14.5	22.9
Illiquid			31.2	34.0	40.9	39.9	35.0	34.9	35.8	33.3	39.8	44.2	45.8	49.5	56.4	57.8	64.0	65.3	44.2

Source: IR&M, raw data from Yale Endowment Fund annual reports 2001-2012

Notes: * Does not add up to 100%. **In June 2011, Yale separated its real assets portfolio into the component parts of natural resources and real estate, establishing each as a separate asset class. *** Prior to 1999, Real Assets included only real estate. Oil and gas and timber were classified as Private Equity. **** Includes Absolute Return as allocation is biased to Event Driven which is mostly "equity-related" in one form or another. Excludes Natural Resources which might include investments with equity-like characteristics. Allocations larger than 10% and 20% were highlighted with only two shades of grey.

The Yale Endowment compounded at around 10.6% per year over the past ten and around 13.7% over the past twenty years to June 2012.[1] This compares to 8.3% for the S&P 500 TR Index and 6.5% for the Barclays US Aggregate TR Index over the past twenty years. Note that compounding at 13.7% over twenty years turns USD100 into USD1,304 in nominal terms; compounding at, say 7%, turns USD100 into USD387. Yale Endowment describes its asset allocation as follows:

Compounding at an annual rate of 13.7% turns $1 into $13 over twenty years. Compounding at a lower rate doesn't.

Over the past two decades, Yale dramatically reduced the Endowment's dependence on domestic marketable securities by reallocating assets to nontraditional asset classes. In 1992, over half of the Endowment was committed to U.S. stocks, bonds, and cash. Today, foreign equity, private equity, absolute return strategies, and real assets dominate the Endowment, representing almost 90% of the target portfolio.
The heavy allocation to non-traditional asset classes stems from their return potential and diversifying power. Today's actual and target portfolios have significantly higher expected returns and lower volatility than the 1992 portfolio. Alternative assets, by their very nature, tend to be less efficiently priced than traditional marketable securities, providing an opportunity to exploit market inefficiencies through active management. The Endowment's long time horizon is well suited to exploiting illiquid, less efficient markets such as venture capital, leveraged buyouts, oil and gas, timber, and real estate.[2]

Some market participants have argued that Yale's equity- and alternatives heavy portfolio approach, sometimes referred to as the "Yale Model", has failed because of the negative 2009 return (fiscal year was from July 2008 to June 2009). The 2009 returns of both Harvard and Yale were around -25% which was roughly in line with the stock market but was worse when compared to smaller endowments with higher liquidity and came as a surprise. Liquidity was too low, resulting in untimely exits. They were essentially caught with their proverbial trunks off when the tide went out. Due to lack of cash, some of the Ivy League endowments were

"Risk is the probability of not having sufficient cash with which to buy something important."
*—Robert H. Jeffrey[3]*

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[1] Yale Endowment, 2012 annual report

[2] Yale University Investment Office

[3] Jeffrey (1984) "A New Paradigm for Portfolio Risk," *Journal of Portfolio Management*, Vol. 11, No. 1, pp. 33-40.

forced to raise cash in the bond market to fund their day-to-day operations.[1] This does not mean that these portfolios are inferior to portfolios with smaller drawdowns in the same period.[2] It does mean though, that even sophisticated investors can be humbled by market forces. The "learning by doing" dictum mentioned earlier applies to them too. This means the idea of "learn continuously" (part of the third point of PPMPT) applies to all investors; it's just that the base is a bit higher for some and a bit lower for others.

Figure 29 is not a sketch of a rugby ball but an attempt to display PPMPT in a conceptual graph. The shown trade-offs give an incentive for all decision makers to continuously move up the learning curve. Note that with *real estate* we mean real estate and land and with *real assets* we mean commodities and infrastructure. (And yes, we are aware that asset classes can be classified differently.)

Figure 29: Investor constraints versus strategic asset allocation
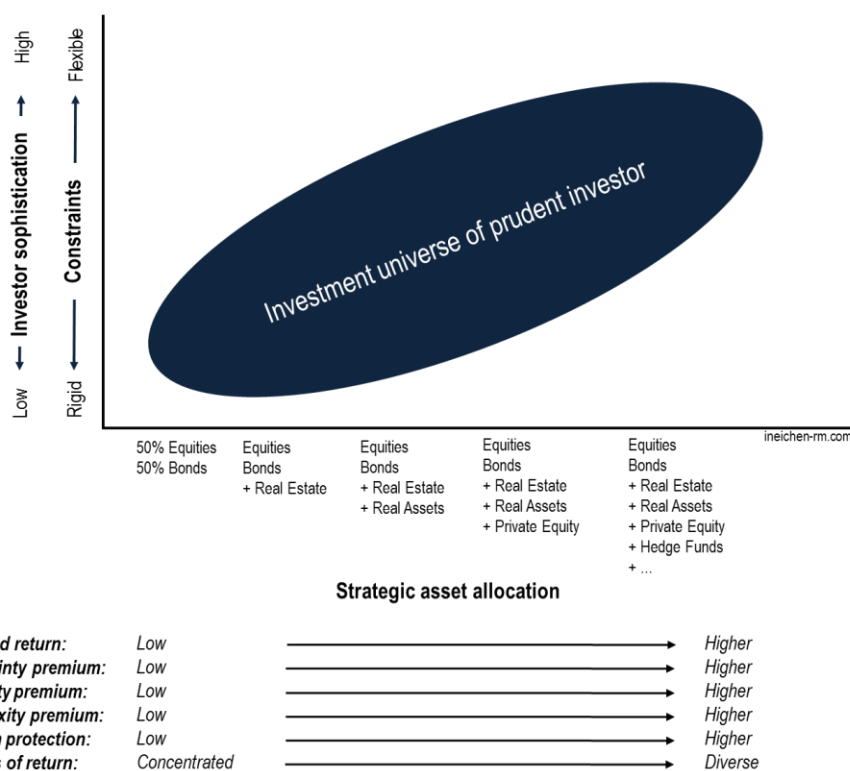
Source: IR&M, adapted from Ineichen (2010)

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[1] "The Yale Endowment Model of Investing Is Not Dead," White Paper, Keating Investments, November 2009.

[2] The reported returns of Yale Endowment for 2009-2011 were -24.6%, 8.9%, and 21.9%. These returns result in a NAV of 100 at the end of 2008 going to 75.1 by 2009, to 82.1 by 2010 and to 100.1 by 2011. This means it took pretty much exactly two years to recover from the 24.6% drawdown. This is similar to hedge funds. The average hedge fund, when the HFRI Fund Weighted Composite Index is used as a proxy, had reached its high water mark in October 2010, a bit less than two years after its trough. The S&P 500 TR Index by comparison exceeded its 2007 all-time-high by March 2012.

MPT suggest there is such a thing as an "efficient frontier" where the trade-off between expected risk and expected return can be "optimized." Risk and return can indeed be optimized; in a world where the weather is always nice, the birds chirp merrily, milk and honey flow aplenty, and married people live happily ever after. However, institutional investors operate in the real world. In the real world there are many constraints that make asset allocation using a two-dimensional model an almost comical endeavour.[2] Institutional investors differ in many ways; mainly in terms of required liquidity, sophistication of their investment office, ability to staff their investment office (ability to insource), sophistication of their board, rules and regulations, solvency of the plan sponsor, term structure of liabilities, location, business relationships and proximity to investment talent, etc. This means there is no such thing as the "market portfolio" on the efficient frontier where the birds chirp ecstatically and all is well in the world.

The further to the right one goes in the chart, the less appropriate is mean-variance optimization. Many viable investments for the flexible and sophisticated investor simply do not fit into a two-dimensional grid. The ideal case on the right hand side is a well balanced portfolio that is regularly rebalanced (because mean reversion is such a powerful phenomenon) and reasonably well understood by all who carry responsibility.[3] Uncertainty, illiquidity, and complexity premiums should be higher for such a portfolio. It is superior to the portfolios on the left hand side. The sources of returns are obviously more divers and the portfolio more adaptable to changes in the investment environment. In a nutshell:

1. Invest only in investment choices you understand.

2. Determine allocation based on idiosyncratic preferences and constraints, and rebalance portfolio regularly.

3. Adapt to change, learn continuously, seek new sources of returns, and re-evaluate allocation regularly. Go to 1.

We find this process very intuitive and simple. However, dart-throwing chimps might not be up to the task.

The role of skill and its applicability

PPMPT is not based on any assumptions of markets being efficient and frictionless, investors being rational, or chimpanzees throwing darts at the stock listings of the Wall Street Journal being a viable passive alternative to an active investment process. The assumptions behind PPMPT are nearly the reverse. It assumes things like skill, intelligence, research, experience, street savvy-ness, creativity, lean business structures and governance, fiduciary responsibility and incentivisation, efficient execution, investment and business acumen and wisdom actually matter to the bottom line. It is a combination of these factors that will allow some investors to construct and manage better portfolios given the challenges ahead. There is no complexity or liquidity premium for dart-throwing primates. Peter Bernstein—in an article stressing the importance of understanding that the

"Economic models have been augmented, refined, garlanded and decorated with baroque accoutrements. Some of these models now rival those constructed by physicists in their mathematical sophistication. Yet they still lack their 'Newtonian' first principles, basic laws on which everyone agrees."
—Philip Ball[1]

"Seek simplicity and distrust it."
—Alfred North Whitehead (1891-1947), English mathematician and philosopher

No reward for laziness and dart-throwing chimps

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[1] Ball, Philip (2005) "Critical mass—How one thing leads to another," London: Arrow books, p. 224.

[2] The fundamental idea that there are trade-offs is very sound though.

[3] The problem of "all who have *no* responsibility" intervening and telling those *with* responsibility what to do, is an interesting one; albeit beyond the scope of this report.

investment environment of the past could be profoundly different from the one we face today—argued in favour of picking up a premium for liquidity:

> *Liquidity is a function of laziness. By this I mean that liquidity is an inverse function of the amount of research required to understand the character of a financial instrument. A dollar bill requires no research. A bank draft requires less research than my personal check. Commercial paper issued by JP Morgan requires less research than paper issued by a bank in the boondocks. Buying shares of GE requires less research than buying shares of a start-up high-tech company. A bond without an MBIA (once-upon-a-time anyway) guarantee or a high S&P/Moody's rating requires less research than a bond without a guarantee or lacking a set of letters beginning with "A" from the rating agencies. The less research we are required to perform, the more liquid the instrument - the more rapidly that instrument can change hands and the lower the risk premium in its expected returns.[1]*

We could rephrase and argue that most investment opportunities are opaque to differing degrees. The liquidity premium then becomes a function of the willingness and ability to acquire the required transparency and confidence to put capital at risk. This arguably requires an effort. From this perspective, we can easily explain why some institutional investors have done so much better than others for many years, instead of trying to explain superior investment performance with luck, as many market observers still do. Along these lines, we could go further and expand on the textbook mean-variance idea where volatility is a proxy for risk. Instead of the expected return being a function of volatility, the target return of an investment above the risk-free rate becomes a function of the illiquidity, tail risk, headline risk, complexity, etc. In this framework, we do not need to rely on luck to explain the Warren Buffetts and Yale Endowments of this world. Some investors are simply better at controlling risk, and gaining transparency and confidence with illiquid, opaque and complex investments. The flipping of coins—the favourite task of authors of textbooks in finance—has nothing to do with it. David Swensen wrote:

Luck might not be such a great explanatory factor of superior investment performance after all

> *Active managers willing to accept illiquidity achieve a significant edge in seeking high risk-adjusted returns. Because market players routinely overpay for liquidity, serious investors benefit by avoiding overpriced liquid securities and locating bargains in less widely followed, less liquid market segments.[3]*

"Investors should pursue success, not liquidity."
—David Swensen, investment manager[2]

In active asset management, performance should largely be attributed to skill and should not be a function of randomness.[4] The original idea of a hedge fund for example, i.e., the Alfred Jones model, was to have an investment process where the return is a function of the manager's skill of picking stocks rather than the swings of the equity market. The positive returns are a function of an entrepreneurial and/or strategic task, business acumen and investment savvy-ness, while the avoidance of large negative returns is a function of risk management experience and skill. Both of these endeavours are active, dynamic and aim to minimise the portfolio's exposure to chance.

The return of an active risk manager manager should be a function of applied skill, not luck

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[1] From Bernstein (2008); emphasis in the original.

[2] From Swensen (2000), p. 93

[3] Ibid., p. 56

[4] This section draws on material from Ineichen (2003)

If the investment process is indeed a function of a combination of skills, the return is somewhat predictable (as opposed to random) as long as the particular skill is applicable and rewarded in the market place (and the bearer of the "skill" does not get run over by a bus).

Skill can be assessed

We believe these latter points to be important. Skill is skill, but it might or might not be rewarded in the market place, i.e., the applicability of skill is subject to change. For example, fundamental stock research was a brilliant idea on the advent of the mutual fund a couple of decades ago. The reward from fundamental stock analysis was huge for the few who rigorously applied the analysis to investment management as a large proportion of the investment community was ignorant about the valuation of stocks. It was the catalyst for a whole new industry: the professional investment management industry. However, that particular skill was copied *because* it carried a large reward.

Skill can become commoditised

Consequently, applying simple fundamental stock research today does not carry as high a reward as it used to. An analyst must dig much deeper to gain an edge today that has not yet been priced into the market. In other words, markets become more efficient, i.e., they adapt and become somewhat "immune" to the skill. Under competition, the skill gets somewhat "commoditised." In other words, if the active manager's investment process is supposed to deliver reasonably sustainable positive absolute returns, the skill has to evolve as the opportunity set adapts to the applicability of the skill. Old ideas are replaced quickly with new ones and the penalty for standing still is high. One ought not to forget that adaptability, and therefore change, is the key characteristic of survival.

Adaptability of skill is the key to survival

Markets become more efficient over time as "the market" learns and adapts. In other words, markets become "aware" of how pioneers and first-movers exploit market inefficiencies. While skill may remain constant, the reward from applying the skill falls over time. Therefore, one needs to adapt the skill to changing market circumstances, i.e., one need to evolve to survive. It goes without saying that an investment process that allows for manoeuvrability and flexibility is more adaptable and therefore more sustainable than one that doesn't. Potentially it is not a coincident that the funding gap of public pension funds—who we assume here are more unionised, regulated and bureaucratic and therefore maladaptive—is larger than the funding gap of private pension funds nearly everywhere in the world.

Markets learn and adapt

We suspect that the belief and confidence in a purely mechanical, non-adaptive way to generate returns and control risk is potentially disastrous, as circumstances always change (initial opportunity changing due to increased attention, feedback loops, etc). As Warren Weaver, author of *Lady Luck—The Theory of Probability* put it: "The best way to lose your shirt is to think that you have discovered a pattern in a game of chance".[1] Potentially, raw intelligence without some form of local or specialist market-savvy is probably as bad as the opposite. In the pursuit of sustainable wealth creation, as well as survival probability, a balance between the two—intellectual property and adaptability—is probably best.

"Wealth is the product of Man's capacity to think."
—Arthur Schopenhauer

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[1] From Sherden (1998), p. 121

With intellectual property, we mean an investment process that is based on some form of research as opposed to pure intuition or government orders. With adaptability, we mean the ability and flexibility to respond to change, as outlined above. Note that "over-adaptedness" is a risk to survival too. A species of bird, for example, might have fended off predators in its natural habitat and survived because, over generations, it grew a large beak. However, at one stage the beak might become so heavy that it cannot fly anymore. If flying to the next island for food is a prerequisite for survival, it dies and become extinct. In other words, the beak was an advantage in one regime but is a disadvantage in another. Variation in the gene pool, which allows rapid innovation and mutation of disciplines, forms the building blocks of survival. The parallel to the asset management industry is that many investment companies have over-adapted themselves to listed equities and bonds.

Intellectual property and adaptability are complementary requirements for survival in hostile environments

Practical relevance

Some institutional investors have been staffing their investment teams with Wall Street-calibre talent, creating an investment office run by experienced investment professionals. On the other end of the spectrum, there are investors where compensation levels are tied to some civil-service gauge, thereby foregoing large-scale insourcing. This means the whole asset management industry will remain very heterogeneous with some institutional investors continuing to insource various forms of investments while others won't be able to. This means some investors will be picking up illiquidity and complexity premiums while others won't.

There is a governance aspect to all this as well: Insourcing not only allows reducing cost (assuming, of course, the benefits from more expensive internal staff outweigh the benefits from saving external fees); it also adds transparency and control. The assets become "closer" to the investment office, thus allowing for better transparency and control of the investments.

Summary and concluding remarks

The challenge

Capitalism is on a sabbatical. Supply-side reforms are rare. The most often phrase in finance is about a can being kicked further down the road. The misallocation of capital continues. Debt levels are rising, not falling. Many industrial economies have been robbing Peter to help Paul. But now they need to rob Tom, Dick, and Harry to help Peter. Demographics are not helping. Governmental intervention into free markets is rising continuously. Unintended consequences from rising regulation might wreak havoc among those it seeks to protect. Wriston's Law of Capital suggests that a society that gives incentives for ingenuity and innovation and is generally business-friendly prospers while society that gives disincentives for ingenuity and innovation and is generally business-unfriendly doesn't. Markets want to allocate capital accordingly; fiscally profligate administrations don't, hence the intervention. If prosperity is to be maintained, capitalism cannot remain in semi-retirement forever. If something cannot go on forever, it won't. The uncertainty with regards to the timing of the homecoming chicken to be roosted is a challenge for all investors.

Peter has been robbed to help Paul. But now Peter's in trouble.

We are now in a sovereign crisis. A couple of years ago it was a banks crisis. The problems have moved on; a lot of the debt didn't just disappear in thin air; it moved from the private sector to the public sector. The pin that pricked the bubble in the banking crisis was a collapse of trust. The loss of trust resulted in disintermediation of banks. The complexity of disintermediating governments is much larger than disintermediating Wall Street.

Disintermediating Wall Street is easy; disintermediating governments isn't.

Extraordinary challenges most likely won't be solved with ordinary solutions. Raising the retirement age to 95 would be a possible solution to all retirement funding issues; albeit an unrealistic one. Conventional portfolio management, i.e., sitting there while inputting some historical prices into a mean-variance optimizer and hoping all goes well, is not a sensible response to current challenges either. Fiduciaries face a dilemma.

Raising retirement age to 95 would probably not go down very well with the populace.

'Risk' as well as 'risk management' are terms that are not clearly defined. The ambiguity of terms is arguably a challenge for the fiduciary. The regulatory and accounting standards might be out of synch with good practice thereby distorting incentives for the various investment management and governance bodies. Potentially, it's a balancing act between doing what is rightful and what is right.

Potentially there is a dilemma between what is rightful and what is right.

The response

The insourcing of certain investment tasks and the lowering of fees is said to be a pure form of alpha. As yields and returns have fallen over the past years, the incentive to re-negotiate or lower fees and to insource certain talks has risen; it adds more value to the bottom line, i.e., net returns rise. However, there is a risk of overconfidence: Lowering fees where no value is added is a no-brainer; replacing skill with inferior skill is a risky endeavour. In a low yield environment investors are paying very close attention as to what skill they pay for. Various new forms of collaboration between institutional investors and service providers are the result.

Lowering fees is pure alpha; or isn't it?

There is no such thing as a second-mover advantage in investment management. Pioneers and early adaptors nearly always graze on greener pastures. The first mover advantage is real. However, the prospect of failure is real too. Investors ought to pick their partners with care. Not all asset managers are created equal, there are indeed differences. These differences increase with the degree of the manager's freedom as well as the inefficiency of the underlying market, and, most importantly, it is possible to identify these firms. This means intelligence and research-heavy financial services firms advising institutional investors as well as savvy and specialised asset managers will most likely prevail and do well in this challenging investment environment.

No second-mover advantage in asset management

New normal, old normal; at one level it's always different this time. This means, assessing risk of investment opportunities must be an active approach, not a passive one. In a world that is changing, it does not make much sense to invest in a fashion that worked well in the past. What worked in the past could be regime-specific. As the regime changes, so do the opportunities and the strategies and approaches to unlock value and survive whatever stress the markets put upon us. Flexibility trumps dogma.

Changing environment requires flexibility

MPT suggest there is such a thing as an "efficient frontier" where the trade-off between expected risk and expected return can be "optimized." However, there are many constraints that make asset allocation using a two-dimensional model an almost comical endeavour. Many viable investments for the flexible and sophisticated investor simply do not fit into a two-dimensional grid. The ideal portfolio is a well balanced portfolio that is regularly rebalanced and reasonably well understood by all who carry responsibility. Continuous learning as well as continuous search for new sources of returns is part of the response to the challenges investors face today.

The future cannot be optimized

The investment landscape has opened to all kind of asset classes and investment forms; infrastructure, land, renewable energy projects and ideas, direct corporate credit, senior secured loans, shopping malls, frontier markets, crowdfunding, co-investment just to name a few. Savvy, sophisticated, intellectually-open minded, well-staffed, well-connected, and well-advised investors will most likely be picking up liquidity and complexity premiums along the way. Bureaucratised, regulatory-burdened, liability-benchmark hugging, and mean-variance-optimizer-worshiping investors, who are stuck in the 'old normal' and just think in alpha and beta and equities and bonds terms, most likely won't.

If you're hot, you're hot; if not, not.

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Selected publications

Risk management research

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The end of a system	1 March 2013
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About IR&M, the sponsor and author

IR&M

Ineichen Research and Management ("IR&M") is a research boutique focusing on investment themes related to risk management, absolute returns and thematic investing. IR&M was founded by Alexander Ineichen in October 2009, has an institutional investors' orientation, and is domiciled in near Zug, Switzerland.

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Alexander Ineichen is founder of Ineichen Research and Management AG, a research firm founded in October 2009 focusing on risk management, absolute returns and thematic investing.

Alexander started his financial career in derivatives brokerage and origination of risk management products at Swiss Bank Corporation in 1988. From 1991 to 2005 he had various research functions within UBS Investment Bank in Zurich and London relating to equity derivatives, indices, capital flows and alternative investments, since 2002 in the role of a Managing Director. From 2005 to 2008 he was a Senior Investment Officer with Alternative Investment Solutions, a fund of hedge funds within UBS Global Asset Management. In 2009 he was Head of Industry Research for the hedge fund platform at UBS Global Asset Management.

Alexander is the author of the two publications "In Search of Alpha—Investing in Hedge Funds" (October 2000) and "The Search for Alpha Continues—Do Fund of Hedge Funds Add Value?" (September 2001). These two documents were the most often printed research publications in the documented history of UBS. He is also author of "Absolute Returns—The Risk and Opportunities of Hedge Fund Investing" (Wiley Finance, October 2002) and "Asymmetric Returns—The Future of Active Asset Management" (Wiley Finance, November 2006). Alexander has also written several research pieces pertaining to equity derivatives and hedge funds including AIMA's Roadmap to Hedge Funds (2008 and 2012) which also has been translated into Chinese and at the time was the most often downloaded document from their website.

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Important disclosures