

Creative Destruction: Pension Fund Redefined

*The Carma Fund - a Pension Fund based on
Time Banking and Data Science*



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Master Thesis in Financial Economics

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This thesis was written as a part of the Master of Science in Economics and Business Administration program at NHH. The institution, the supervisor, or the examiner are not – through the approval of this thesis – responsible for the theories and methods used, or results and conclusions drawn in this work.

Preface and acknowledgements

This thesis is submitted in partial fulfillment for the Master of Science degree in Economics and Business Administration (MEBA) with specialization in Finance at Norwegian School of Economics, Bergen. The work started already in my first semester fall 2008 at the onset of the credit crunch, having just completed my first MSc in Innovation and Entrepreneurship with top grades. Inspired by the work of Greenblatt's 2-factor magic formula (2006) and Haugen's 60-factor model (1996) I teamed up with a friend to write a highly quantitative thesis with the hypothesis that arriving at number of factors in-between 2 and 60 that would outperform these two strategies. A big thanks goes out to John Eivind Bergeng for finishing this work, being awarded top grade for arriving at 53 factors giving a yearly return of 30% over 25 years of back-testing.

Myself, as a self-financed master student, managed to keep it going for 3 semesters completing 29 classes (12 being the requirement) before starting my PhD in Innovation and Entrepreneurship in 2010. I had to postpone my 4th and final semester, and after 3.5 years in USA I've finally manage to carve out the necessary time. In California I was teaching "Quantitative Trading" for 2 years, coming up with numerous quantitative projects that had the potential of exceeding the thesis Bergeng and I started. In the end, I still opted for a qualitative study building on my 16 years in higher education to describe how we can rethink our entire economical foundation.

I would like to thank economic historian Jan-Urban Sandal for teaching "Innovation Management" where his PhD dissertation about Joseph Schumpeter (who coined the term Creative Destruction) was part of the curriculum, which inspired me to write the article "The role of Information Technologies in improving Universal Access to Clean Water" – forming the foundation of this thesis. I'd also like to thank my friend Jon Stinson who I can always rely on for having my publications proofread.

And my last thanks goes out to NHH and all the wonderful professors I got to know while doing my 29 classes. Now 16 years into higher education, I feel comfortable making the statement that Norwegian School of Economics is the best business school in the whole world, especially when considering value for money.

Abstract

We live in unprecedented times, in a unique blend of challenges and opportunities. “Business as usual” is no longer working as we have reached the end of exponential growth as we know it, and a creative destruction for more sustainable management of our limited resources is nowhere in sight. This thesis seeks to explore in a qualitative study how our entire system for retirement and savings can be redefined to embed our allocation of time in a holistic life planning system which seeks to reward integrity in the choices we make, made possible by recent innovations in the area of Information, Communication and Technology (ICT).

Keywords

Pension Fund, Savings, Time Banking, Data Science, Information Technology, Impact Assessment, Social Inclusion, Sustainability, ICT, Creative Destruction

Citing

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“One does not become enlightened by imagining figures of light, but by making the darkness conscious” — C. G. Jung

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1. Introduction

Norway as a welfare state introduced its first version of a pension system in 1936, where a need had to be documented. In 1957 the retirement was made accessible to all at age 70, and combined by law with other welfare arrangements in 1967. In 1973 the retirement age became 67, with full retirement benefits requiring employment for 40 years. Job security isn't what it used to be, and the exploitation of people and our planet for profit as regulated by the state doesn't have the same success formula anymore. Planet Earth has limitations, and a new pension system based on positive externalities and sustainable utilization of scarce resources is needed. This thesis seeks to explore the Creative Destruction of a new Pension Fund, and how it should be structured to attain trust in a globalized economy.

1.1 Motivation and Background

Creative Destruction is a term coined by Joseph Schumpeter in 1942, the most cited entrepreneurship researcher of all times, and is defined as: “the essential fact about capitalism” (Schumpeter 1942). In a globalized world with 7.3 billion people, it's easy to feel small and insignificant. Yet, individuals like Bill Gates, Mark Zuckerberg and Larry Page prove what can be achieved on a global scale with enough determination, persistence and proper timing. These individuals have achieved Creative Destruction in redefining how we go about improving our productivity, finding information and sharing moments with friends and family – through a well managed innovation process. They have benefitted from an unconstrained capitalistic system, in a world with substantial growth. But there are limits to growth (Meadows et al. 1972) as established more than 40 years ago, which means that we face an unprecedented challenge considering that capitalism with its short term focus is the lowest common denominator – that can only be displaced by well executed creative destruction through proper innovation management. We need to collectively realize that we only borrow this planet from the next generation, which require us to treat it with respect.

1.2 Problem definition and thesis outline

The general object of this thesis is to explore and analyze the viability of a redefined pension fund in the modern setting of lower growth in the world economy. Strictly defined, it seeks to shed light on the two following research questions:

- 1) Would a redefined pension fund, based on recent advancements in information technologies related to time banking and data science, be able to gain the position as a trusted network with current market conditions and trends?
- 2) Which strategic considerations and decisions would be critical for successful innovation management and adoption of this concept?

The redefined pension fund concept here mentioned is that of a case combining time banking with data science, which is included in chapter 4. This thesis is divided into four main parts: Theoretical framework (chapter 2), Methods (chapter 3), The Carma Fund case (chapter 4), and Analysis (chapter 5). In chapter 2, I first establish a historical context and then explore recent information technology advancements with focus on the emerging field of data science and other literature with particular relevance. The research focus of this thesis implies a natural focus on strategy for successful adoption and the underlying force that inhabits the networked economy of people in a globalized society: Network externalities. Thereafter, I commence chapter 3, where the chosen methodology of data collection is described followed by a discussion of inherent challenges of studying one's own creation (i.e. as done in this thesis, using a self-constructed case as the object of analysis). Consequently, chapter 4 includes the case. It consists of two main parts: The description of a redefined pension fund concept (*The Carma Fund*) and a thereto-related market analysis. Chapter 5 seeks to find answers posed by my initial research questions. For this, I draw upon the theory presented in chapter 2, and conduct an analytical dissection of the chosen case.

2. Theoretical Framework

This chapter builds a theoretical foundation by first creating a historical context and then explore recent information technology advancements with a focus on data science. Network externalities will be explored as strategy for successful adoption.

2.1 Historical Context

Throughout history there has been recurring battles for land and labor, with accumulation of capital for those who have been successful in getting ahead and maintaining their position. Ever since Adam Smith published “An Inquiry into the Nature and Causes of the Wealth of Nations” (Smith 1776), economics has been a continuous subject of academic debate. With mercantilism finally shoveled aside, theories on liberal economics have been innovatively challenged, refined and adapted to ever-new fields. First out were general concepts like *division of labor* and *economics of scale*. Then theory of *management* with the publication of “General and Industrial Management” (Fayol 1916) made its entry, stimulating general awareness on internal efficiency and external competitiveness. While Adam Smith still is relevant in general terms, his writings are unable to capture strategic financial implications of new information technologies. And as stated by Prof. Muhammad Yunus, the invisible hand doesn’t work (Yunus 2009). Hence, this thesis takes us to the very frontier of change, where scholars still haven’t even begun to understand how positive network externalities can be applied to retirement savings.

2.1.1 The history of money

Money can simply be defined as something we assign value to. Before money there was the barter system, with a fair exchange of goods. Money gained popularity with its simplicity in facilitating trade at markets, as a new profession emerged that would buy goods from farmers (producers) and sell to consumers. Until 1971 the US dollar could be traded in for gold and was the most sought after currency. The United States of America had a dominant position

globally, with The American Dream attracting immigrants from all over the world and many moving to places like Hollywood in search for fame and fortune. Their movies, new technology, economic growth and portrayed welfare has had a strong pull on talent from all over the world and still succeeds in attracting skilled students and workers despite having made immigration far more challenging.

Money can also become worthless due to inflation. During a three-year period of hyperinflation in the Weimar Republic (modern-day Germany) between June 1921 and January 1924 the German marks had virtually no value when converted to dollars. In order to pay the large costs of the 1st World War, Germany suspended the convertibility of its currency into gold upon its outbreak. Unlike France, which imposed its first income tax to pay for the war, the German Kaiser and Parliament decided without opposition to fund the war entirely by borrowing. The result was that by November 1923 one American dollar was worth 4,210,500,000,000 German marks, as illustrated below.

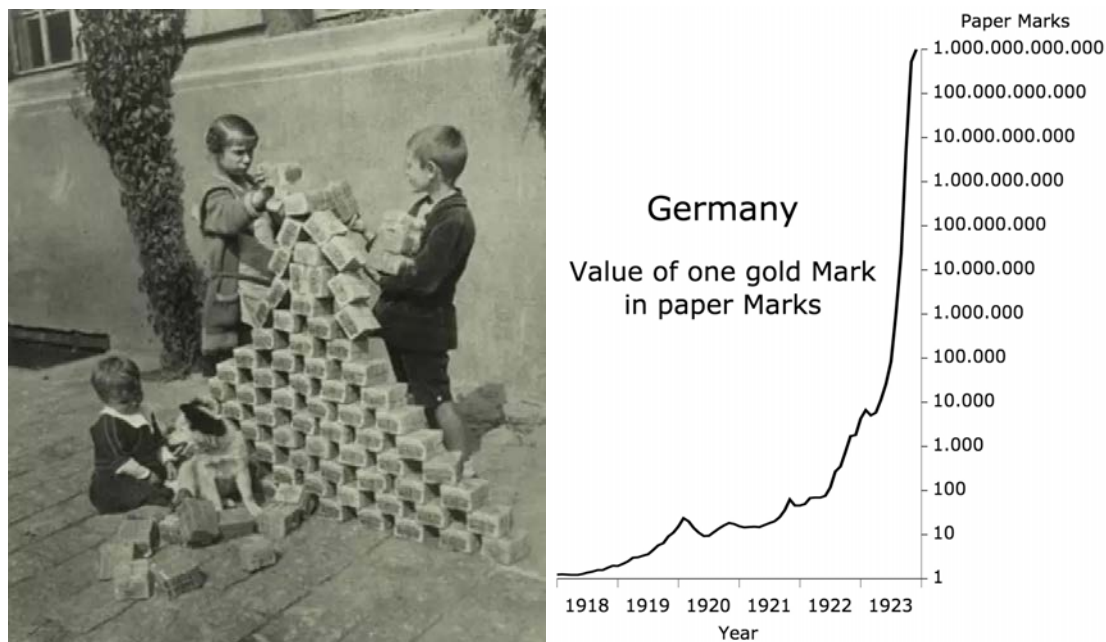


Figure 2.1: Hyperinflation in the Weimar Republic

But over the years something peculiar has evolved in our relationship to money. With abundance of money and credit, those who understand personal finance and the long term value of education – with an ability to be comfortable with calculated risk, has with the everlasting social value of using the social network Facebook given rise to a unique form of currency: Social Capital.

2.1.2 Economic history

European colonization of North America began at the start of the 16th century, with the Kingdom of Great Britain's recognition of the independence of the United States when the American Revolutionary War ended in 1783. It was the first successful war of independence against a European colonial empire. As there was much land to develop and a steady flow of entrepreneurs seeking fortune in the promised land, the United States was marked as a future superpower. The rise of a nation built by entrepreneurs on the fruits of capitalism has for centuries served as an engine for economic development, which free of limits to growth (Meadows et al. 1972) had the right formula for getting most out of the abundance of natural resources available. At the beginning of the new millennia with the dotcom bubble bursting we started to see the dark side of capitalism, which some will say for United States is more rightfully described as cronyism. Proper management of growth calls for a longer-term view on utilization of scarce resources, but a recurring challenge in the world of entrepreneurship is failure due to premature scaling. 70% of startups fail due to scaling prematurely (Marmer et al. 2011). You might say that Japan scaled prematurely. Their economy peaked in the 80s but now has a negative saving rate.

Norway, having been built on Marxism post World War II, has had another path to economic growth. A booming oil industry owned and controlled by the government has made Norway as a state rich, allowing for the continued development of our one-class society with only minor income differences relative to United States. The cultural lack of appreciation for the success of any single individual in Norway, combined with a desire to include everyone in our economic growth, has effectively allowed Norway and its citizens to avoid the mistake of premature scaling along a limited number of dimensions. While other nations are in deficit, Norway still has a strong culture in being frugal, with the educational insight and financial means to invest in a more sustainable future.

2.1.3 The history of Time Banks

While Time Banks have not become a known phenomena in Norway, they have been established in 34 countries – with at least 300 Time Banks established in 40 states in USA and 300 throughout the United Kingdom. Time Banks also have a significant presence in Japan, South Korea, New Zealand, Taiwan, Senegal, Argentina, Israel, Greece, and Spain. In

economics, a time-based currency is an alternative currency where the unit of exchange is the person-hour. The first Time-based currency exchange: “The National Equitable Labour Exchange” was founded in 1832. Time Dollars are a tax-exempt complementary currency used as a means of providing mutual credit in Time Banking. Edgar S. Cahn, JD, PhD is a distinguished legal professor, former counsel and speechwriter to Robert F. Kennedy, and the creator of Time Banking (Collom et al. 2012:9-11). He coined the term “Time Dollars” in the book “Time Dollars: The New Currency That Enables Americans to Turn Their Hidden Resource-*Time*-Into Personal Security & Community Renewal” (Cahn et al. 1992), in addition to trademarking the terms “Time Bank” and “Time Credit”. Edgar Cahn starred in the 2014 documentary titled “Time As Money”, which stated that 40% of all productive time takes place outside our money system. The documentary describes how time banking strengthen communities by enabling you to get to know your neighbor in an organized, reciprocal manner where just being a member gives an inherent level of trust and give those who are being laid off a way to find new functions in the society. A story was told about a man who lost his job and with it his storage. Through time banking he found a lady needing to have a fence set up around her property and was allowed to use a section of her garage to store his tools. Some Farmer’s Markets accept time dollars, so those without income can also buy food.

2.1.4 The history of insurance companies

Insurance is the equitable transfer of the risk of a loss, from one entity to another in exchange for payment. It is a form of risk management primarily used to hedge against the risk of a contingent, uncertain loss. The amount of money to be charged for a certain amount of insurance coverage is called the premium. Risk management, the practice of appraising and controlling risk, has evolved as a discrete field of study and practice.

Methods for transferring or distributing risk have been around for thousands of years BC. The first known insurance contracts date from Genoa in 1347, and in the next century maritime insurance developed widely and premiums were intuitively varied with risks. These new insurance contracts allowed insurance to be separated from investment, a separation of roles that first proved useful in marine insurance. The first life insurance policies were taken out in the early 18th century and by the late 19th century, governments began to initiate national insurance programs against sickness and old age. In the 1880s the basis for

Germany's welfare state was formed with the introduction of old age pensions, accident insurance and medical care.

The government taxes its people and its companies to fund these public benefits, which works well in a closed system with population growth and a life expectancy that allows for a manageable retirement period. With a decline in fertility rates, an aging population, globalization, increased life expectancy, longer education, public deficits, reduction in public budgets (austerity) and pressure to reduce taxes – it is not looking good for the next generation of retirees. The competitive nature of capitalism and the fiduciary duty of maximizing profits puts a limit to how much corporations can be taxed in a globalized society. In particular when the new corporate currency is data, users and facetime, these resources are used as a way to justify high market capitalizations without revenue, further reducing future prospects of tax income. On an individual level, as we delay having kids, choose to have fewer kids, and some even seek the good life and happiness without bringing new life to this world – there is reduced consumption as youth today seek cohousing living arrangements to compensate socially. These social options open up new insurance policies as co-ops might differentiate themselves by including an optional insurance to rent payments.

2.1.5 The decoupling of fiat currencies to natural resources

In 1971 the Bretton Woods agreement was dissolved, ending the ability for converting US dollars to gold – which effectively removed the connection between scarce natural resources and money. In the following year the book “Limits to growth” was published, which urged for a transition to a more sustainable economy based on renewable resources to avoid an overshoot and collapse (Meadows et al. 1972). At the same time there is an ongoing cold war, where money in itself has little value if the whole planet were to be bombed to pieces and polluted in the outbreak of a nuclear war. Public investments and increased debt was justified with short-term investments, as the US made a solid effort in proving that capitalism is superior to communism. Reckless spending and exuberant flows of money has resulted in the unfortunate growth in inequalities, fully embraced as “The American Dream” in disguise. Positioned as a global petroleum currency, the US dollar is considered a safe heaven in global distress, with the ability to borrow funds through the sale of treasury bonds. This makes quantitative easing a natural choice in times of declining economic growth, which in addition to artificially creating inflation (primarily in real estate) also has the added benefit of

devaluing the US dollar which in turn increases US exports – and reduces unemployment. It's a scheme that works politically as well, serving business interests and securing employment wrapped in a economic distress package caused by poor governance. Politically the major concern is public riots, which experienced a fair chance with Occupy Wall Street – though the overall achievement was merely a greater public awareness of the divide between top 1% and the remaining 99%.

2.1.6 The negative impact of Finance

Einstein famously said that “Everything is relative”, which basically means that what matters is change and in what direction this change goes. At any given point in time there are forces at work, which push or pull in a certain direction, that historically had a more obvious objective and visible causality. With the emergence of finance as an industry, and the wealth, freedom and flexibility that came with it – after millennia's of suppression from conservatives, governments and religions, a liberation movement started in the 60s fueled by sex, drugs, and rock 'n roll. As illustrated below, all this is very interesting and exciting as long as the 2nd derivative is positive (exponential, convex curve) and not only is there high relative growth but also a substantial absolute growth. There is still momentum when "Late Majority" enters the market, but this is also when most of the value of the underlying shift has materialized and the dark side of the transformation starts to emerge.

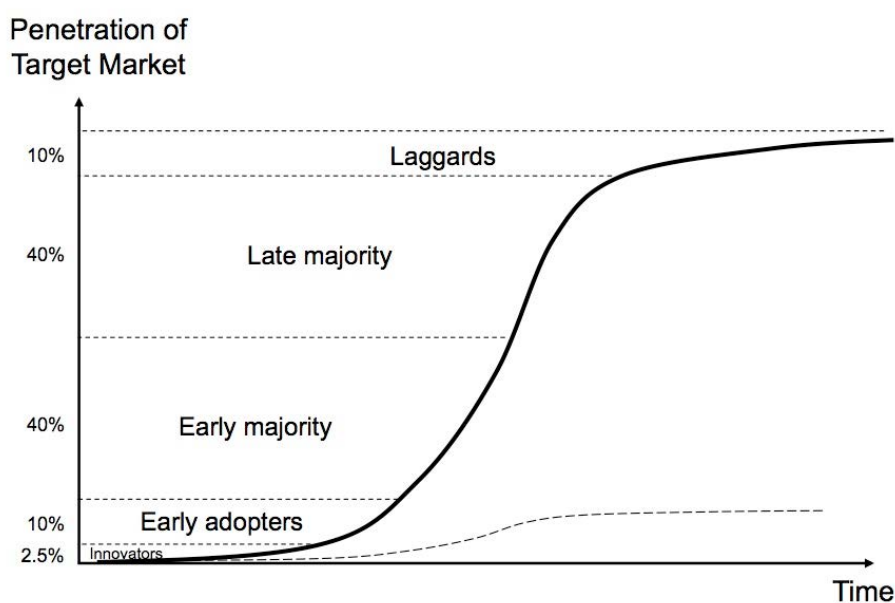


Figure 2.2: Penetration of Target Market

The research community and authors like Piketty (2014), Klein (2014) and Reich (2008) have come to realize the negative impact of finance. And as usual, in order to maintain respect and trust in the research community and the general public, focus remains on fueling a public debate with the hope and expectation that a solution will miraculously emerge through public demand. That is putting too much faith in democracy and too much faith in capitalism. Jørgen Randers, one of the authors of “Limits to Growth” (Meadows et al. 1972) has after 40 years lost faith in both democracy's ability to make a decision and capitalism with its short term profit maximizing focus and places renewed hope in the ability China has demonstrated in effectively mobilizing large efforts in the market. Luigi Zingales felt compelled to put a question mark in the title of his article “Does Finance Benefit Society?” (Zingales 2015) which critiques finance and its role in society. For instance, he claims: “there is no theoretical basis for the presumption that financial innovation, by expanding financial opportunities, increases welfare” (Zingales 2015:9). An IMF study “Too much finance?” (Arcand et al. 2012) found that once a country’s financial sector becomes too large, it actually inhibits growth and increases volatility. Which is confirmed by a Journal of Banking & Finance publication: “Does too much finance harm economic growth?” (Law et al. 2014). The article “Profits Without Prosperity” (Lazonick 2014) explains that from the end of World War II until the late 1970s, a retain-and-reinvest approach to resource allocation prevailed at major US corporations. We’ve since shifted from value creation to value extraction, as stock buybacks manipulate the market and leave most Americans worse off. In the period 2003 - 2012, 449 companies of the S&P 500 spent 37% of net income on dividends. An even bigger share was spent on buybacks, 54%, leaving only 9% remaining for reinvestments. Around the financial crash of 2008 the combined spending on dividends and repurchases could actually exceed total net income, financed by reserves or borrowing (ibid).

WHY MONEY FOR REINVESTMENT HAS DRIED UP

Since the early 1980s, when restrictions on open-market buybacks were greatly eased, distributions to shareholders have absorbed a huge portion of net income, leaving much less for reinvestment in companies.

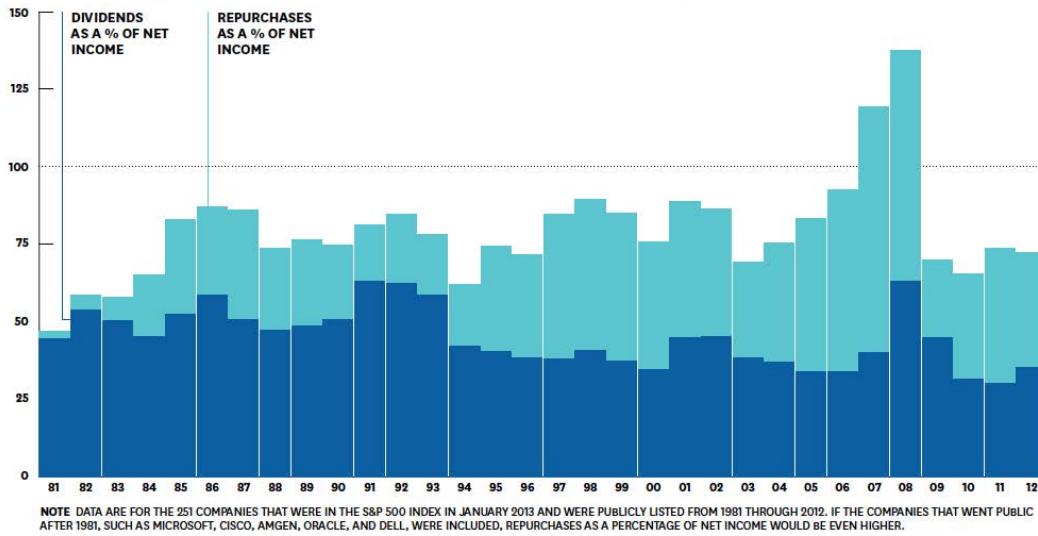


Figure 2.3: Dividends and repurchases as % of net income (Lazonick 2014)

This shift from value creation to value extraction, with growth in buybacks during the 80s also caused a sharp shift in the income distribution between bottom 90% and top 10% as illustrated below (Tcherneva 2015).

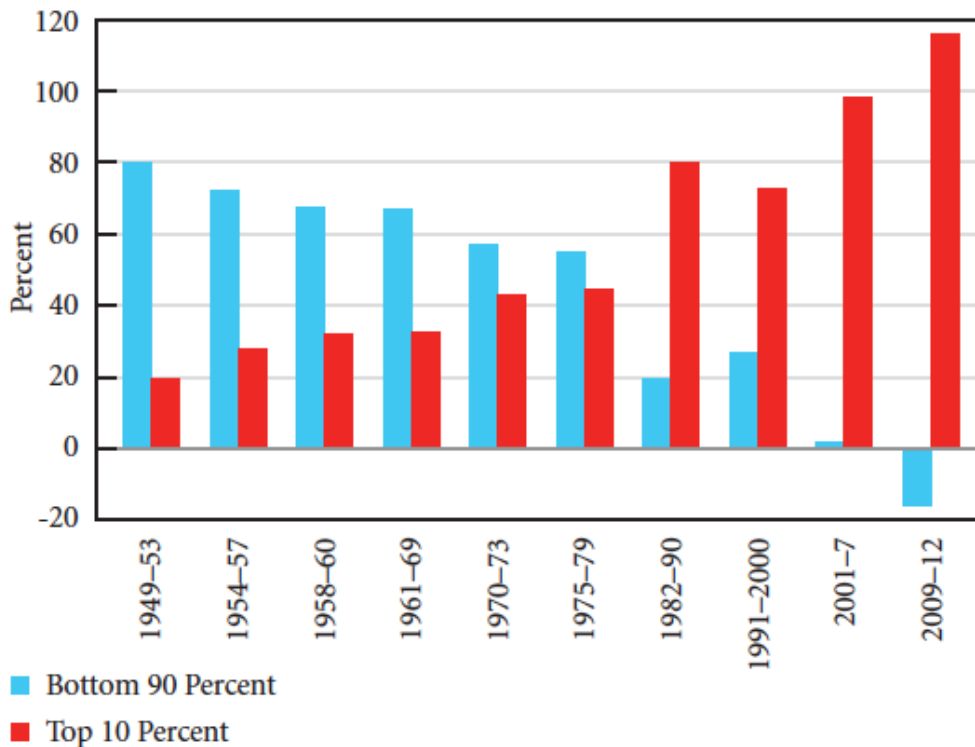


Figure 2.4: 90 Percent vs. 10 Percent: Distribution of Average Income Growth during Expansions (including capital gains)

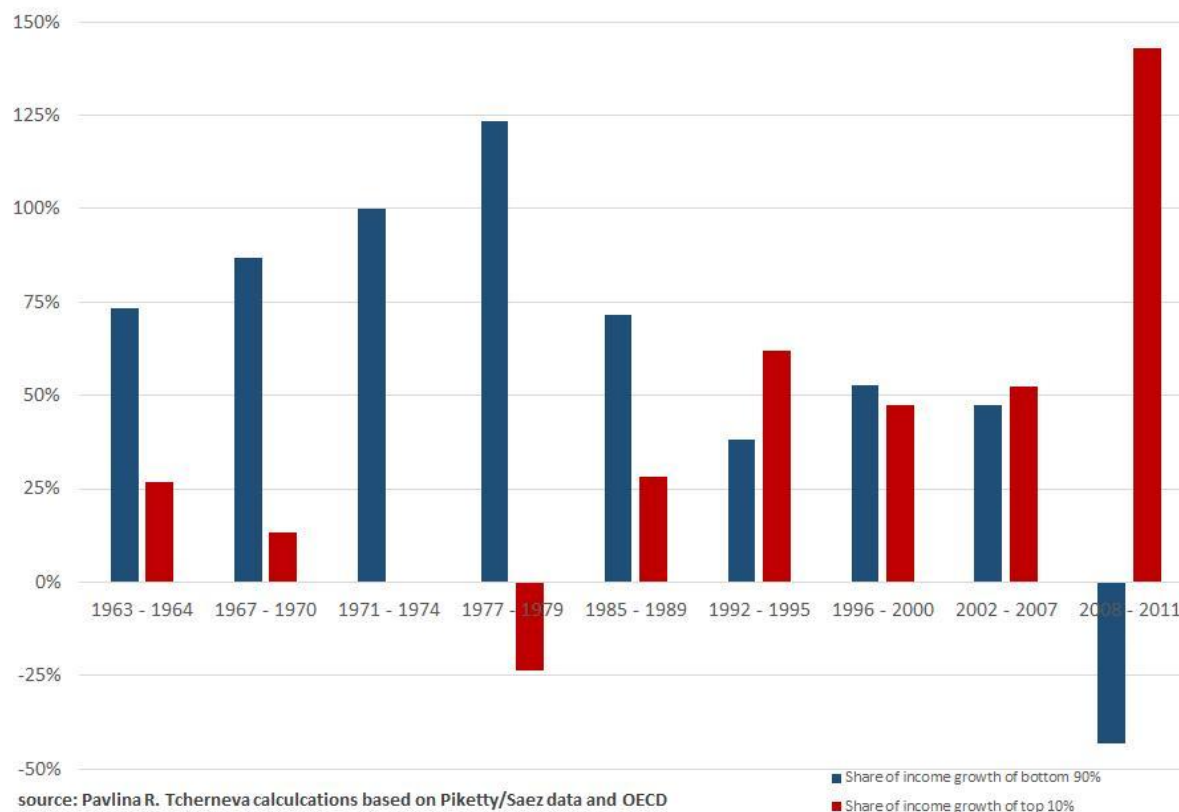


Figure 2.5: Distribution of income growth of the top 10% vs the bottom 90% in Sweden

Sweden has as illustrated above been until the 80s very successful at distributing income growth to the bottom 90%. But even they have since the financial crisis struggled to preserve their democracy, as the bottom 90% are actually experiencing a reduction in their share of income. Sweden had a corporate tax at 52% until 1989. The richest in Sweden has been winning the distribution of income growth since the tax reform reduced the corporate tax to first 40% and later 30%. It was 28% between 1994 and 2008, with a reduction to 26.3% in 2009 and an additional reduction in 2013 to 22% as illustrated below. From 2016 a 25% deduction will bring the effective tax rate down to 16.5%. While Norway had after the tax reform in 1992 the lowest capital gain tax (28%) of all OECD countries (OECD 2010), we now after a one percent reduction in 2014 have the highest tax rate (27%) of all OECD countries. In 2008 Sweden introduced a 22% capital gain tax when selling your house, popularly referred to as a “moving tax”. In Norway there is 0% tax on capital gain when selling your house, and when 77% of our population own their house it would be a political suicide to suggest the same in Norway. 62% of the Swedish population owns their house, below the average of 65% in the EU.

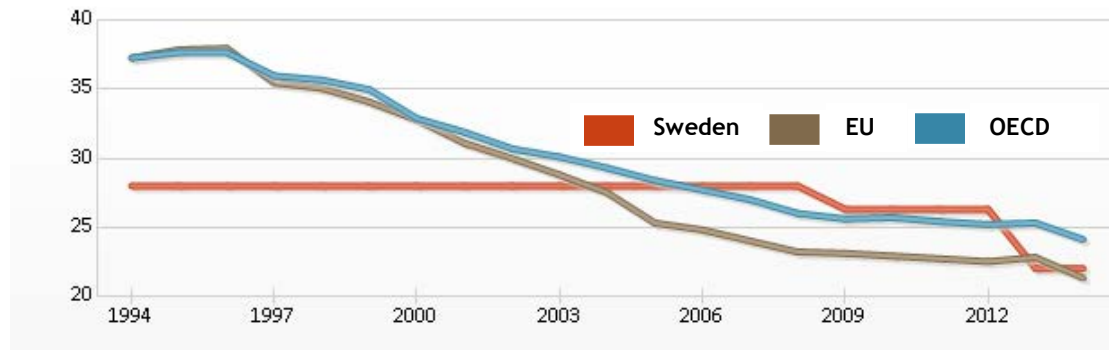


Figure 2.6: Declining corporate tax in Sweden, EU and OECD since 1994 (Source: KPMG)

One of the most important features of a welfare state is stability and a trade deficit that is under control. Finance always seeks to increase revenues and reduce costs, which works well when there are latent productivity gains accessible. The chart below shows that productivity has since 1948 had a steady growth, while hourly compensation has been almost stagnant since the 70s.

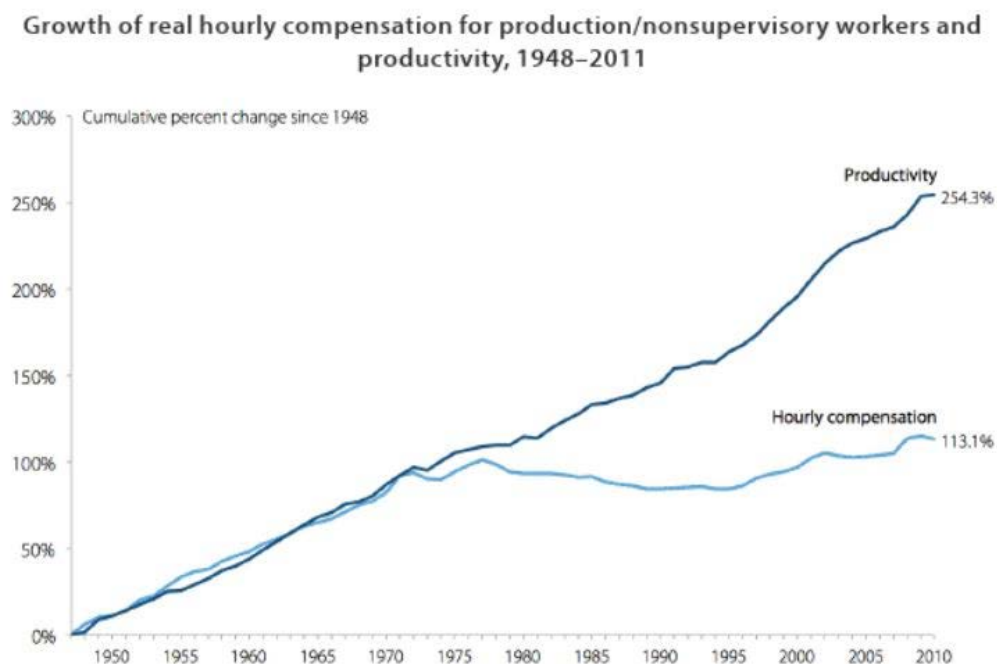


Figure 2.7: Growth of real hourly compensation for production/nonsupervisory workers and productivity, 1948 - 2011

Robert Reich explains that much of these productivity gains comes from women entering the workforce, more than one job, longer working hours, overtime, automation, new technology, outsourcing and credit growth. Minimum wages have actually decreased since 1968 adjusted for inflation, as shown in the figure below.

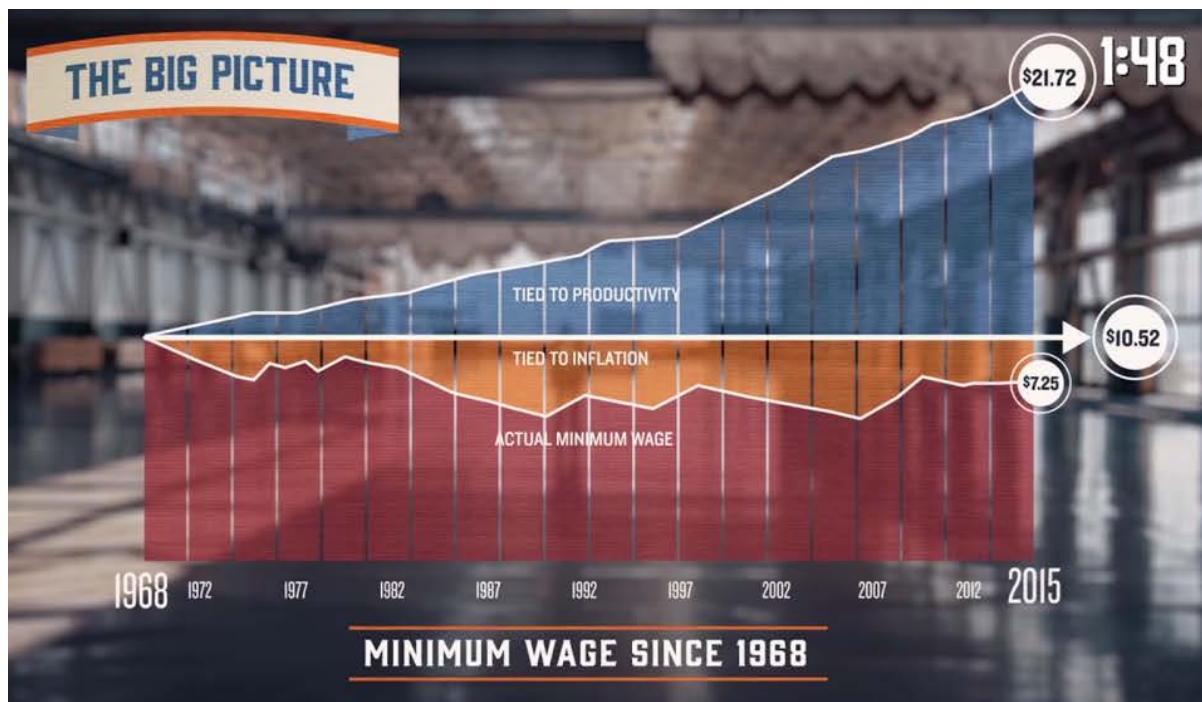


Figure 2.8: Minimum wage since 1968 (Schmitt 2012)

According to US National Bureau of Economic Research the US recession began in December 2007 and ended in June 2009, and thus extended over 19 months. NBER defines recession as “a period of falling economic activity spread across the economy, lasting more than a few months.” While the Great Recession caused by the financial crisis has ended, the American population reports that it is not over. GDP growth might be positive, but still 82% October 2009 answered “not over” when sharing their point of view in a Washington Post-ABC News Poll. 86% December 2009 and 88% in February 2010. 76% answered “still in a recession” April 2012. A September 2014 Public Religion Research Institute poll shows that 72 percent think we are still in an economic recession.

The dark side of finance became apparent during the 90s when even housewives in suburbs would pool together funds and invest in publicly listed internet startups like NetBank at \$1 a share, not being able to agree when to sell and subsequently see the share price go all the way up to \$100 and drop back to \$1 when the bubble burst. Even taxi drivers were giving investment advice about companies that would reach exuberant valuations for just putting out nice press releases. That was when the world of finance spun out of control. As described by Les Leopold in his book “How to Make a Million Dollars an Hour: Why Hedge Funds Get Away with Siphoning Off America's Wealth” (Leopold 2012). The negative impact of finance

was taken to the next level when hedge fund managers were engaged in outright fraud during subprime lending, a scam which has allowed some of them to earn a million dollars an hour, far exceeding any other profession in the world.

2.1.7 Global politics

The global economy much resembles a game in the way global politics, multinational corporations and cash flow creates an interesting dynamic in the flow of resources. Much can be explained with “business as usual”, while savings and pension plans increasingly have questionable value when even governments go insolvent. Even Norway, one of the richest countries in the world (#2 GDP and #1 in the 2015 Social Progress Index) has for the first time ever agreed politically to give those on pension less than the growth in price index. When the dotcom bubble burst in our new millennia, followed by a dramatic interest cut, financial innovations were introduced which allowed for the underlying risk of a housing price bubble collapse to be passed on in trenches – allowing for triple A credit risk rating for investments that eventually would default. This scheme went by unregulated without much attention by central authorities, as the influx of capital reduced concern of a growing trade deficit. Any fool can make money in a growing economy, just like it has been hard in the housing market to lose money in nominal terms. As global growth is slowing down, while stuck in a capitalistic system that depends on eternal growth, under the slowness of democratic control – all the right ingredients are present for an unprecedented collapse. It will strike with the same surprise factor as the banking crisis of Nordic countries in the early 90s (Steigum et al. 2015). The banking meltdown happened after 75 years of economic stability. A crisis not wasted for Norway, which currently has the biggest sovereign fund, while most nations have more debt than assets. Net government debt as % of GDP is -165.5% for Norway, -51% for Finland and -17.6% for Sweden. Much responsibility therefore rests on Norway in global politics to take the lead towards more sustainable governance of natural resources. On May 27, 2015, the news broke that Norway will divest from coal, in good timing ahead of the 2015 United Nations Climate Change Conference in Paris, indicating that Norway takes this responsibility seriously.

2.2 Data is the new Oil

It's being said that “Data is the new Oil”, which basically means that energy is becoming commoditized while deriving insight from data will be the differentiating factor of the future. Corporations around the world have begun to understand this, and invest heavily in the collection and organizing of data. Deriving insight from the underlying data isn't quite keeping up, as there is a lack of skilled data scientists that also get out of the office to do their own qualitative research – learning how to ask the right questions, and allowing for the personal flexibility of following the data just like an investigator would follow the money. While many data related investments are made, the very nature and affordability of dealing with data doesn't imply that these organizations will attain the same level of profitability as the energy sector – but these investments are still necessary to obtain and maintain competitive advantages.

2.2.1 Big Data

The buzzword is “Big Data”, the collection of enormous amounts of data – made possible by new technology. Just like computing capacity has been following Moore's Law for decades, which say that the performance with double every 18 months, so has the cost of storage been approaching zero measured in variable cost per user. The challenge is the hype cycle as illustrated below, which causes for much excitement when technology and the market has an unproven potential.

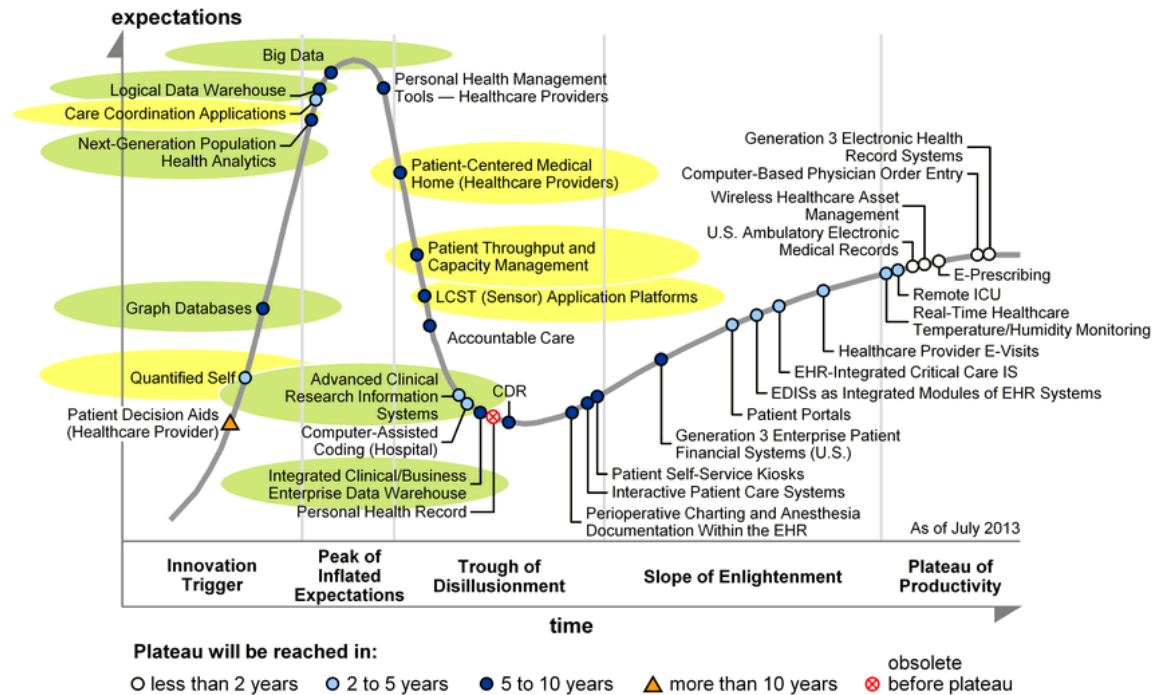


Figure 2.9: Hype Cycle for Healthcare Provider Applications, Analytics and Systems.

(Source: Gartner February 2014)

In the late 80s computers with a hard drive entered the market, making more complex operating systems possible. In the 90s windows entered the market, making use of the popular browser possible. The introduction of Netscape made it obvious that Internet was here to stay, and that it would disrupt everything. It eventually did, but not as quickly as the hype of the 90s indicated. The inevitable crash came in our new millennium, and we're now on the second wave, which is more robust and stable. There is the occasional talk about a new bubble in Silicon Valley, fueled by acquisitions like Instagram for \$1b even though they had no revenues. This was followed by another acquisition by Facebook of WhatsApp for \$19b. Facebook started in 2004 as a directory for college students, and has a decade later stored 300 petabytes of rich personal data, which we willingly share to keep friends and family up to date on our daily activities. Even Norway and Sweden have joined the trend, building green datacenters inside mountains and in cold environments to further reduce costs.

But collecting large data sets is just the first step. As the Princeton study below illustrates, analyzing data over a 20-year period can uncover some shocking discoveries. The study, published in “Perspectives on Politics” with the title “Testing theories of American politics: Elites, interest groups, and average citizens” (Gilens et al. 2014) looked at 20 years of data connecting public opinion polls with laws passed in congress.

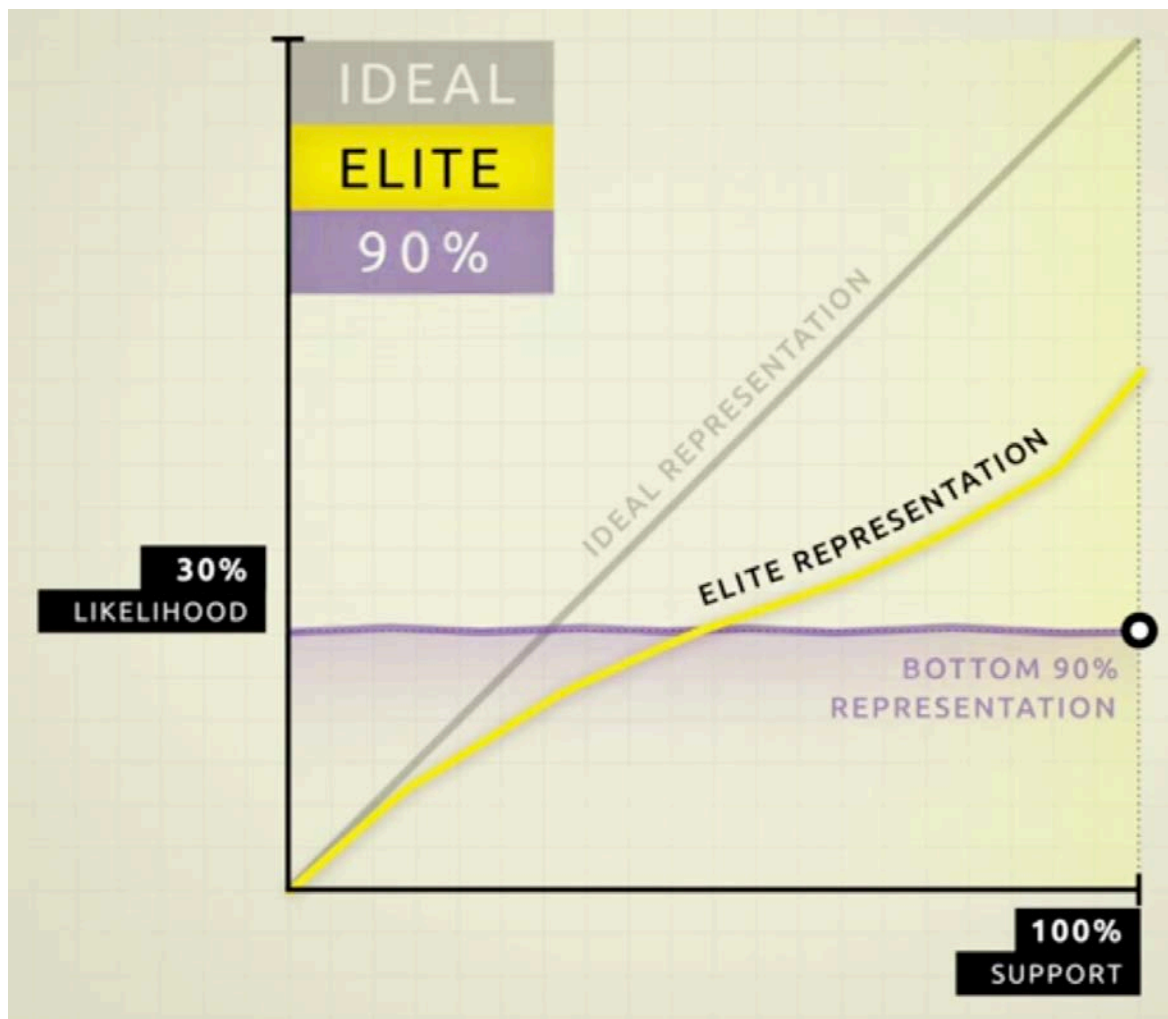


Figure 2.10: American politics – Elite vs average citizens

The illustrated result was nothing but astonishing. The likelihood of a publicly supported law being passed was around 30% regardless of whether public support was 0% or 100%, while laws the elite supported had a curve closer to the ideal representation of a working democracy. The study effectively proved that “money talks”, and that politicians are highly subject to influence by lobbyists – which are on payroll by the elite to influence laws according to their interests. An organization called “Represent.Us” has been established to establish anti-corruption laws across the US, laws that Norway have had for a long time already, which just shows how powerful data can be in bringing about change.

2.2.2 Predictive Models

Science as we know it typically has had a role in describing what was, in a search for the truth – as apparently *the whole* scientific community has to reach an agreement before something can be considered “scientific truth” by media and the general public. Higher education became a political priority post World War II in the US, with the State of California ensuring good working conditions for professors at University of California, Berkeley – in competition with higher salaries on the east coast. Stanford, as a private institution, didn't have the luxury of public funding and had to get creative in order to attract and retain talented professors. Professors were allowed to take a leave of absence to start businesses yet still be allowed to come back, developing strong bonds between the university and the industry. Not surprisingly, students would also start businesses and as alumni make donations – creating a positive feedback loop. While at UC Berkeley, it was the biggest sin thinkable for professors and students to personally benefit from a public good, effectively discouraging any form of entrepreneurship. In particular for professors, the decision to create a company followed a high risk of not being welcome back in the UC system. As tuition fees have been rising for public universities there are no longer such stark differences between private and public universities, as both universities have become more market oriented, but underlying cultural differences and attitudes of private versus public is very much present. Stanford is for instance known for its research on semiconductors, while many Norwegians are familiar with the Sociology Department at Berkeley. In a world with parallel processing and the ability to link together thousands of affordable computers, the density of transistors has become less of a societal benefit, and cannot claim to have a significant predictive capacity – as the development is mostly incremental at this point, with quantum computing so futuristic that it falls into the same category as fusion energy. Historically, research on gender differences was important and relevant for our society and of public interest. Sociology has lost much of its ability to influence policy, rendering much of the research done as a study of what was.

Weather forecasting is a field that has been predictive from the beginning, increasingly becoming more accurate at building models that can predict the weather. While predictions were typically just presented in a crude manner on TV or newspaper, we can now through advanced interactive websites see the weather forecast of a particular area of interest with detailed hour-by-hour graphs. This field has adopted another vertical which in its very nature is also predictive: Climate Change Research. Large amounts of time series data are being

collected to make projections for future development given our current emission of greenhouse gases (Field et al. 2014) centrally organized by the Intergovernmental Panel on Climate Change (IPCC). An organization called “Institutional Investors Group on Climate Change” representing more than 100 members with assets worth more than \$10tn, create reports like for instance “Climate Change: Implications for Investors and Financial Institutions” (Sullivan 2014) which contains easy-to-read infographics about how The Fifth Assessment Report (AR5) from IPCC translate to meaningful terms in the world of finance. Which is a step in the right direction, while at the same time being solving a financial crisis by reducing the interest rate when a low interest rate caused the credit crunch to begin with. When private interests are predominantly the root cause, caused by systematic weakening of the public sector to wide gaps in salaries, then long lasting solutions based on the foundation of equality is unlikely to emerge from private institutions. And with the rise of tuition fees at public institutions like University of California, Berkeley, then their ability to develop predictive models for serving the public good is put into questions as well – since the ever growth in accepted number of students put so much pressure on students, the administration and professors that the overall focus becomes placement in University rankings instead of addressing serious public concerns. As explained in the OECD report: “In It Together: Why Less Inequality Benefits All” (OECD 2015), less inequality bring forth public universities in Europe as a natural place for developing predictive models with respect to holistic governance of national human resources, with focus on political and economic stability, equal opportunities and thriving local communities. In particular the Scandinavian countries, having made the wise decision of keeping their national currency, serve as a good model for empowerment as illustrated by high levels of social mobility – so that each individual citizens can realize their full potential.

Finance can be a lucrative place given the ability to create predictive models. I joined the world of finance at the beginning of the millennium when the returns of my interest fund wasn't worth mentioning, and I discovered the opportunity of buying Marine Harvest at 3 cents and then later sell at 4 cents – as the share price had been alternating between 3 and 4 cents for a long time. That's when I discovered that there was a long queue for selling at 4 cents, and I wasn't until they made a reverse split that I was able to have my sell order come through. So my assessment was valid in the end, and I did close with a 30% profit, but it would later come to be my first lesson in Behavioral Finance. After the split, Marine Harvest dropped to NOK 2.00, which I falsely assumed to be the bottom, and bought shares. As the

share price dropped towards NOK 1.00 the temptation to double down was high, but then I had already incurred a 50% paper loss, so I made a pass. Once the bottom was hit the share price would retain momentum and eventually rise above NOK 4.00. In 2005, having entered the real estate market, I naturally became more interested in macroeconomic aspects in order to determine when it would be a good time to sell the house. In less than 2 years, august 2007, I concluded that the market had likely peaked, so after collecting a few price estimates the highest was selected and the house put on the market. That's when I learned the hard way that selling a house is like selling fresh baked bread, with the market becoming skeptical if it stays on the shelf too long, and how important timing and correct pricing is. After 16 months we had 2 bids, both below asking price. As a blessing in disguise the bubble eventually burst when Lehman Brothers went bankrupt, causing a dramatic fall in interest rates to which the house was largely exposed to, as the mortgage had a 5 year down payment free period. I cannot think of a better timing than the fall of 2008 to start my master studies at NHH, as we would have professors and guest speakers explain the underlying reasons of how subprime could bring down the entire housing market and cause a credit crunch globally. Having just completed my first master thesis, I quickly teamed up with a classmate with expertise in day trading to collaborate on the next project. He had already successfully executed strategies, which would build on overreactions in the market to generate 40% return in one month. A strategy that would be too simple to write a thesis on, so we decided on a multifactor approach to building predictive models. Inspired by the work of Greenblatt's 2-factor magic formula (2006) and Haugen's 60-factor model (1996) we formed the hypothesis of generating a number of factors in-between 2 and 60 that would outperform these two strategies. John Eivind Bergeng finished this work himself as I became preoccupied with my PhD in Innovation and Entrepreneurship and data collection in Silicon Valley, being awarded top grade for arriving at 53 factors giving a yearly return of 30% over 25 years of back testing. We had successfully developed a predictive model (Bergeng 2012), which consistently and significantly outperformed the benchmark, essentially disproving the Efficient Market Hypothesis (Lo 2008) while giving support to the Adaptive Market Hypothesis (Lo 2004).

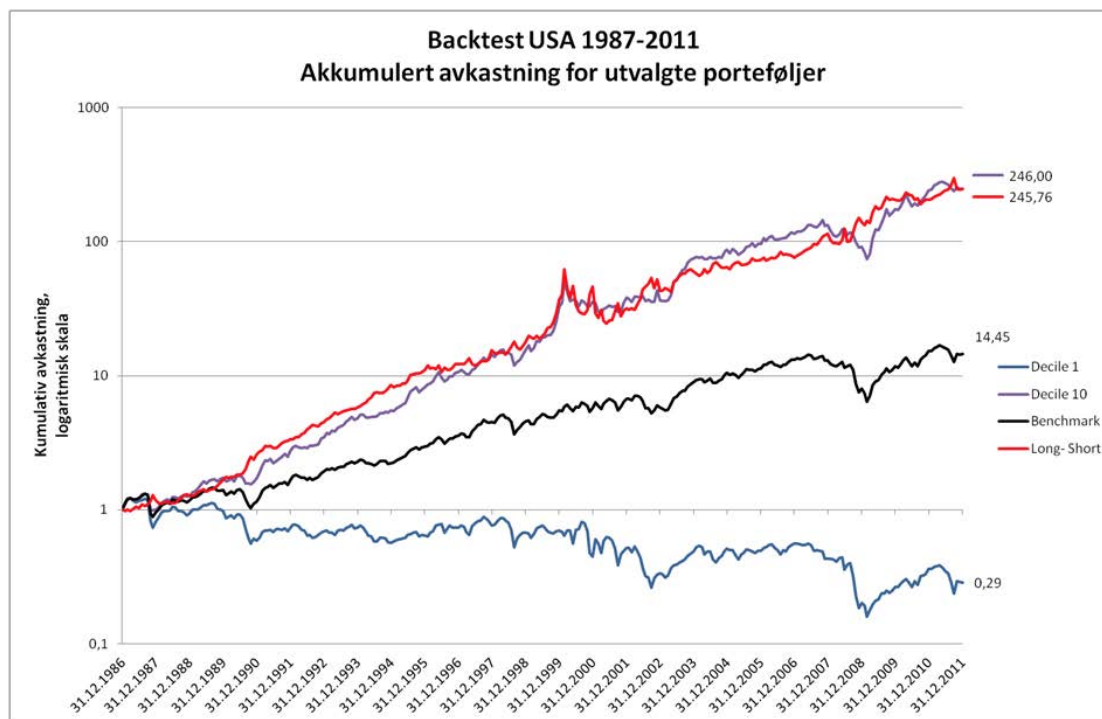


Figure 2.11: Returns using a 53 factors model for 25 years.

The only challenge was that while relative returns were great, a 30% gain on \$100 wouldn't amount to any significant absolute returns. So the chase continued, as I started teaching “Quantitative Trading” with the goal of developing strategies that would consistently generate 30% returns per month. 30% per month would quickly bring assets into the billions, where the 53-factor model would come in handy, as market impact eventually would become an issue. After 2 years of teaching “Quantitative Trading” and eventually also “Qualitative Investing” and “Impact Assessment”, many strategies were developed for both short term trading and long term investing, understanding how non-profits could be assisted in visualizing and interpreting data, and making predictions to assist them in maximizing impact. As with everything, data can be applied for both good and evil. The challenge is to ensure that our society as a whole benefits, which currently isn't looking good from a social and environmental point of view.

2.2.3 Creative Destruction

While capitalism has for centuries worked well for the United States of America, in a state of perpetuate growth of developing land and with a steady flow of immigrants, the US is now

undergoing a painful transformation as powerful capital continues its endless search for profits. American corporations are required by law to maximize profits. That is their fiduciary duty. Those unable to compete are required to file for bankruptcy and cease to exist. Corporate America depends on their publicly listed companies to generate profits in order to collect taxes to keep military services running, to keep social services going, to pay retirement for those who have ever been in congress and maintain international credibility to ensure continued willingness to purchase US Treasury Bonds. We were warned already in the 1972 book “Limits to growth” (Meadows et al. 1972) that our inability to adopt sustainable utilization of scarce natural resources will inevitably lead to an overshoot and collapse. The dark side of capitalism has already begun eating away at Pension Funds, the lender of last resort. The fact that China with its state capitalism is building one coal plants every week to meet their need for energy, with the growing smog issue that follows, clearly shows that capitalism isn't the solution with its disregard for people's health and the long term health of our fragile planet. Neither is democracy, currently occupied with austerity and incapacity of quickly arriving at a unified plan of action.

“Creative destruction refers to the incessant product and process innovation mechanism by which new production units replace outdated ones. This restructuring process permeates major aspects of macroeconomic performance, not only long-run growth but also economic fluctuations, structural adjustment and the functioning of factor markets. Over the long run, the process of creative destruction accounts for over 50 per cent of productivity growth. At business cycle frequency, restructuring typically declines during recessions, and this adds a significant cost to downturns. Obstacles to the process of creative destruction can have severe short- and long-run macroeconomic consequences.” (Caballero 2008)

Redefining how we think of Pension Funds and ways of going about saving for the future is a Creative Destruction necessity for ensuring proper governance of scarce natural resources and other limitations of our planet – so that we can pass it on to the next generation in a better condition. The answer is in the data, so a well-coordinated data science effort in identifying and addressing flaws in our existing systems will be a solid step in the right direction. Much of the public sector is in a state of austerity, but needs data science to properly rank the impact of various expenditures in the budget to effectively reduce costs with minimal impact to the

services provided. Current implementations as illustrated below, appears to negatively affect growth.

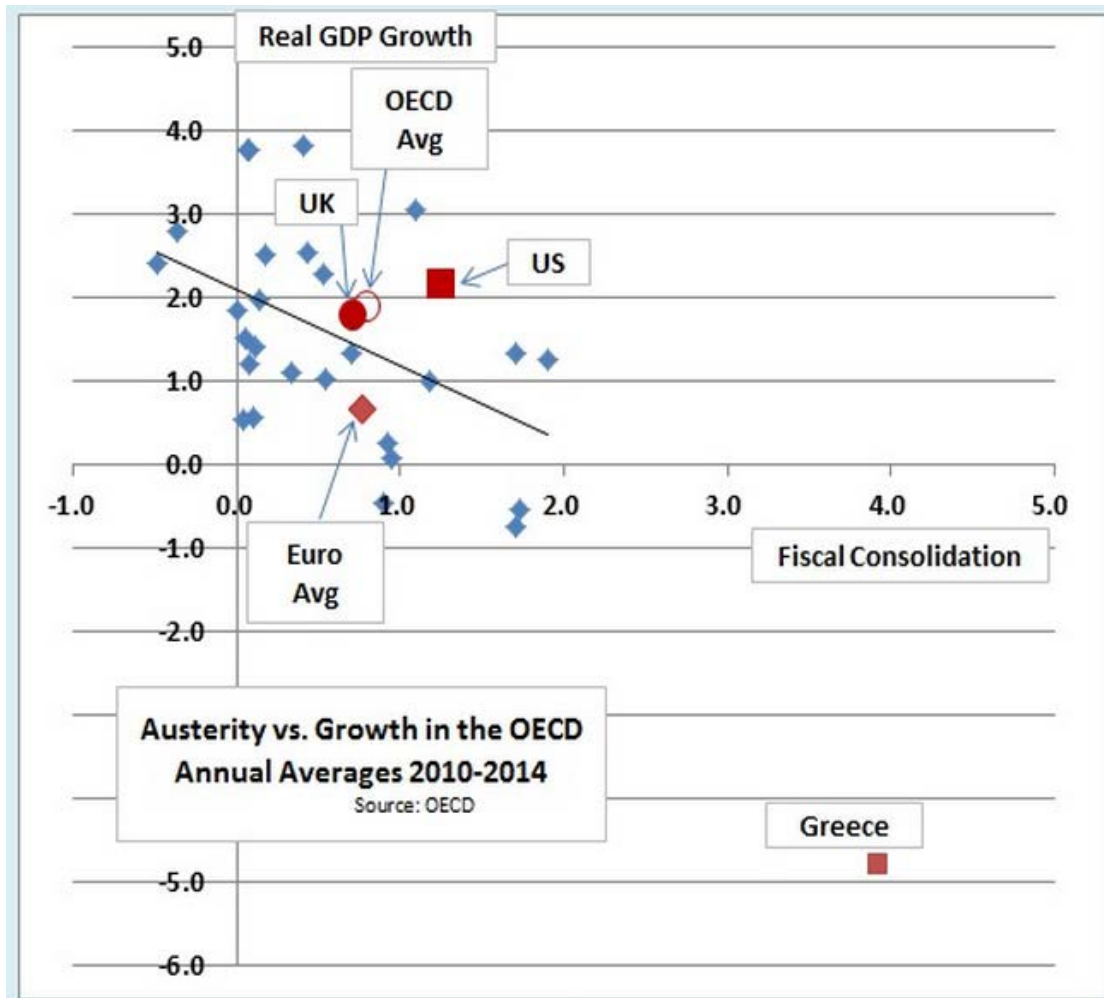


Figure 2.12: Austerity vs Growth in the OECD. Annual Averages 2010 - 2014

(Source: OECD)

Just like our economy is suffering from self-destruction, through absence of action as a function our democratic decision making processes and the overly short focus of our capitalistic systems – we have for-profits and non-profits that have their own struggles subject to laws that were based on certain assumptions and expectations about the present and the future, which currently might not serve their intended purpose. These elements of self-destruction can also be found on an individual level, where for instance more than 35% of the US population is obese. A good start to achieving Creative Destruction with a Redefined Pension Fund would be to help people help themselves.

2.2.4 Privacy

Integrity can be defined as “doing the right thing, even when nobody is looking”. Which sounds good on paper, but can be hard to do in practice without extensive research into possible ramifications of decisions we make daily and the impact of these actions with a short-term, mid-term and long-term assessment – put into context of what everyone else is likely to do in the coming years. Personally, I no longer own a car and instead have bought a yearly pass for collective transportation in Oslo and I bicycle when the weather is good. Obviously this helps reduce CO2 emissions and provides funds for to the development of our collective transportation, but put in perspective of the dramatic increase of CO2 emissions in China the impact is close to zero. While I have a desire to reduce my carbon footprint, it is rather the realization of the negative value of owning a car that so far has kept me from buying a new car. Just recently I ended up paying more than \$1000 to have my US car put in the junkyard, with much needed help from a friend in California. When I bought the car for \$3000, I did the math and found that I paid about \$800 a year for access to a car whenever needed. So it was the expectation (or hope) of being able to resell it at a decent price, which made me buy it. I wouldn't have bought the car if I knew about all the issues the car would bring. I enjoyed the convenience of driving to Las Vegas and Lake Tahoe without concern of the daily rate for renting a car, but with the emergence of more rental options with convenient locations, the equation for many people doesn't add up anymore.

A pension fund which allows its members to help each other through facilitation of these connections, along with a rich dataset for quick and accurate mentorship would allow a new trusted pension fund to be perceived more as a trusted family that serves a purpose throughout your whole life, strengthening the community you live in – not just a savings account with questionable investments which today seems to have more negative than positive externalities. I would for instance enjoy the ability to explore which bank other Norwegians had chosen upon arriving in California, which carriers they used and who would offer the best reception in the areas I was likely to live and work – so that I could compare this rich dataset with a price comparison to build upon the experiences made by others through passive data collection. Data technology has come so far that I wouldn't even need to ask other Norwegians for advice.

As a mentor I would be able to earn benefits from this pension fund, as I gladly volunteer my time towards others concerned about finding affordable, convenient solutions

with a low carbon footprint. Take for instance another Norwegian who has been at Berkeley, California for a year – faced with a decision to keep renting Zipcar on a per-need basis, or buying a car. A platform specifically built for impact assessment and scenario analysis can then be utilized for this person to input all known information and future plans with uncertainty margins, which can be shared with others having relevant experience once all options had been explored quantitatively to get a new qualitative layer of input. Properly executed, the act of passing on invaluable experience can be fun, educational and entertaining for both the mentee and the mentor. At the core there is a non-profit pension fund, designed to serve its members and the planet, which has as a function of its inherent ability to harness synergies and sustainably organize scarce resources on the foundation of always up-to-date research – earned the trust necessary to allow its users to share data without concern of abuse, and as such effectively addressing the privacy issue through a collective agreement of the underlying system to be fair and optimal given current constraints.

2.2.5 Convergence towards trust and integrity

There is a growing concern and awareness in the population that a lot of personal data is being stored, that can be abused and limit our freedom. Data can be analyzed to be rejected for health insurance, and the analysis of activities in social networks can be applied to produce an unfavorable outcome. Ever since June 2013 when Edward Snowden leaked classified information from the National Security Agency (NSA) to the mainstream media, the general public has started to understand that information stored in the cloud isn't private. In Europe, a law was passed which required every website to inform about the use of cookies. Anyone not financially independent, with aims of being attractive in the work market, has to be cautious about what information they post and what others posts about them – as apparently, anything can and will be used against you at some point in the future.

“Business as usual” has brought us to an almost inescapable system where the lowest common denominator is profit. While revolutions haven't historically been an uncommon phenomena, it is uncertain this time around if a public uprising in a fairly complex system will have any measurable impact on the standard of living. While technology and productivity gains give a theoretical capacity for a much improved standard of living, the inherent desire to maximize profits and a weakened divide between private and public interests has reduced much of the stability and predictability that once existed.

As a critical mass will come to realize what works and what doesn't work, there will eventually emerge a group of committed individuals with a deep understanding of the many pitfalls which emerge in a new and improved system – then an organization will take form which through strong focus on integrity can earn the trust necessary to spring out as a viable option with the flexibility and momentum to become the trusted backbone for an initiative that once again might unite the people. This will produce an organization, of the people, for the people, through which transparency and education will facilitate a convergence towards trust and integrity at all levels of the organization.

2.2.6 Decentralized systems

In finance, a trader is subject to at least 50 pitfalls of behavioral finance, which combined with cognitive limitations, can lead to inferior decision making. A political system, set up as a system that attract certain types of people, are also subject to similar pitfalls in process of introducing new laws and with regards to allocation of tax dollars. This brings forth the question, will we in a distant future be better served with a decentralized system. September 30, 2008 it was reported in the news that the National Debt Clock had ran out of digits when the US gross federal debt rose above \$10 trillion. A debt level which surpassed \$18 trillion November 2014. Many question how this will end, as attempts at reducing the debt level or even reducing the debt growth can easily trigger a vicious cycle.

A decentralized system which gives no human insight into any identifiable personal information, and as such gives complete privacy, might with complete information of all activities in our society – combined with predictive models, ensure that each individual is challenged appropriately to their capacity, optimized for our entire lifespans and benefited by all the longevity factors as defined by research. Such a system isn't likely to emerge until the population has stabilized and we've found a way to interact harmoniously with nature in a manner which can be defined as sustainable. Jørgen Randers, one of the authors of the book "Limits to growth" (Meadows et al. 1972), made a TEDxMaastricht Talk in 2013 sharing his prediction that our population will never reach 9 billion and that he dreams of a stable earth population at 4 billion by 2100. In our millennium we've seen decentralized protocols like BitTorrent and BitCoin emerge, so it is only a question of time until the concept of decentralized systems gain traction in other areas. Majestic-12 Distributed Search Engine might one day rise as a viable alternative to Google. Diaspora, launched in 2010 as a decentralized social network, is still in development and has yet to gain much market traction.

2.3 Network Effects: Integrity Management

Facebook and Amazon are great examples of companies that have successfully managed to capture the value of Network Externalities. Norway had a few successful social networks that quickly were rendered worthless when Facebook entered the market, as the value for of those networks dropped dramatically when the switching cost ceased to exist with all your friends were on both networks and Facebook became the preferred choice having both your national and international friends present. As users used Facebook invite friends to events, not joining the network would limit social interactions and eventually converge towards social exclusion. Messenger also served as a free alternative to text messaging with additional features of sharing photos privately and the use of emoticons, further strengthening the lock-in on users. Ads were almost non-existent before the IPO and remained non-intrusive after going public, which kept Wall Street happy with regards to revenue growth and future potential. Amazon keeps adding services to their platform, like streaming of movies, music streaming, electronic books for their proprietary Kindle devices, free shipping for Prime users, etc. with the convenience of already being a trusted company for processing payments. Ever since I completed my master thesis “Networked business models and strategies for modern e-commerce: Case study of a generic business concept” (Føleide et al. 2008) in my Innovation and Entrepreneurship degree, it was clear to me that network effects would replace patents as the competitive protection of our millennium.

2.3.1 Network effects as a competitive advantage

According to Value Network Theory, there are three value configurations with a general that can be summarized as shown in the table below (Fjeldstad 2005).

	Chain	Shop	Network
Type of Firm	Manufacturing	Consulting, oil-exploration, hospitals	Bank, telecoms, airlines
Value elements managed	Components	Competencies	Connections
Deliverable	Product	Solution	Connectivity

Table 2.1: Value configurations

These three types of value creation, value chain – the manufacturing model, value shops as knowledge firms and value networks – the mediating network firms, face different types of tradeoffs (Fjeldstad et al. 2001). New mediation services are initially of little value, because there are no actors to mediate between. Thus, a new technology or service typically follows “distinct life cycle phases of rollout and operation” (Stabell et al. 1998).

The establishment of network effects should be handled with much respect. Once a standard has become entrenched in a market, replacing it with a new one becomes increasingly harder – even if it is superior. This is what economists call a lock-in (Lewin 2001:82-83; Shapiro et al. 1999:103-105), because switching costs would be prohibitively high on both individual and collective level. “When two or more firms compete for a market where there is strong positive feedback, only one may emerge as the winner” (ibid:176-77). Our current economic structure appears to target our pension funds, as the only eternal funds in our globalized economy – which more than anything resembles a race to the bottom. Our retirement savings are by law required to invest with a diversified, low-risk mandate. This approach give little freedom to build a portfolio of companies that take the triple bottom line (people, planet & profit) seriously, thus indirectly favoring corporations that emphasize short term profit maximizing with no respect for people & planet while the good guys in the meantime goes bankrupt. This negative network effect is reinforced by pension funds that are struggling to maintain fund growth in response to greater liabilities of an aging population, which further exacerbate the vicious spiral.

The US has a work-market characterized with more dimensions than Norway, as anyone can start a non-profit and collect tax-deductible donations. In Norway there is a cap on tax deductions at \$2k, limited to a short list of established non-profits. Many are drawn to the idealism of non-profits in the US, and happy with everything from job assignments to co-workers with the exception of the salary. This leads to a dilemma, with an internal soul searching of what matter most: nice co-workers or the higher salary in the for-profit sector. Social Entrepreneurship structured as non-profits with earned income, has a long-term competitive advantage to for-profits as employees become more conscious about societal and environmental concerns. In particular Social Ventures offering a redefined pension fund to their employees can make the case of a higher return on invested time, all factors considered, thus achieving a competition advantage. This redefined pension fund will obtain economics of scale as more social entrepreneurs choose to join, contributing to the network effects with further strengthen the competitive advantage.

2.3.2 Network effects as a function of Integrity Management

As we go through life we are faced with many decisions. The transition to being an adult is characterized by our ability to take responsibility for our own actions. A sexual intercourse can for instance lead to pregnancy, regardless of how many levels of protection are applied and how one might agree on abortion upon failure of other prevention methods. Once hormones kick in, actually going through with the abortion can prove challenging. So the right thing to do for the unborn child is to preserve such intercourse with a partner whom one sees decades of happiness together, providing conditions for a beneficial childhood in accordance with the Golden Rule: “Do to others what you would want them to do to you” (Luke 6:31). Integrity has become increasingly challenging, as pressure on youth to escape the pool of virgins keeps intensifying. “Right is right even if no one is doing it; wrong is wrong even if everyone is doing it” are the words of Augustine of Hippo (b. 354 AD), which remains as true today as it was back then. Our actions and our ability to withstand negative influence determine the development of our definitions of right and wrong, and becomes part of our character. Some find themselves doing the right thing for the right reasons, with the result still being wrong. Like non-profits that are more or less corrupt, kept alive by donors who keep giving at the yearly gala without asking critical questions, and those who give money to homeless drug addicts instead of giving them food, shelter, love and attention. Overwhelmed by all the need and suffering out there or due to an underdeveloped capacity for empathy, many end up in the category of doing the right thing for the wrong reasons – like doing charity work to polish a CV.

As illustrated below, Stephen Covey describes in his book “The 7 Habits of Highly Effective People” (Covey 1989) that every path starts with dependence. This is the phase of private victory, which will lead to independence. As beings with free will, we can choose to remain there or move on to the next phase of public victory. If done properly, a state of interdependence will emerge with the synergies that come from interpersonal relationships. Going through these 7 steps can be thought of a building a pyramid. The bigger the foundation, the more effort is put into each step, the longer time is spent on each step, the greater the probability for public victory with a stronger ability for self-realization. These habits are there as a reminder that you’re in charge (1), that it is good to have a plan (2), that the correct order is work first, then play (3), that everyone can win (4), it is wise to listen before you talk (5), together is better (6) and that balance feels best (7). Upon mastering these

habits, one has a good foundation to succeed as an entrepreneur with an innate ability to find latent opportunities in the market without needing external stimuli.

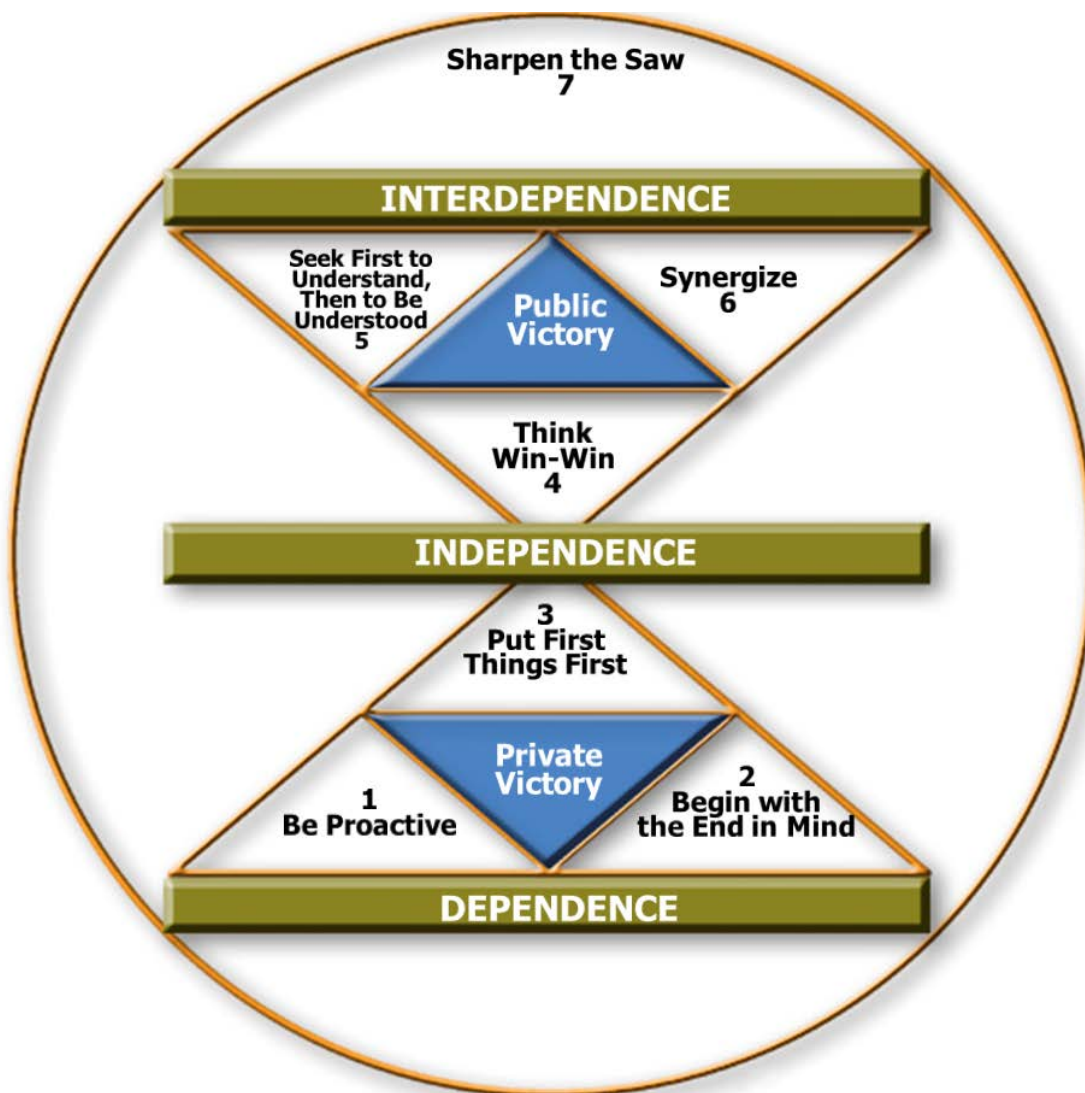


Figure 2.13: The 7 Habits Paradigm

According to Schumpeter, the entrepreneurial motivation can be observed in 3 ways: The dream of establishing a “private kingdom”, the desire to realize oneself and the joy of creation to channel ones own ingenuity and creative energies (Schumpeter 1978). A brief overview of history shows that innovations of recent times are more sustainable than what one “could get away with” in the past. The heightened societal consciousness has a positive domino effect, in the sense that societal trends becomes a driving factor of what types of products, services and business models which gain market traction. Schumpeter describe 3 characteristics that an entrepreneur needs to possess in order to succeed: An entrepreneur must make of their

intuition and have developed the ability to see results of ones own efforts before embarking on the challenge, free up energy, space and time as well as mental freedom from daily demands and have the strength necessary to overcome any resistance of juridical, political and ordinary origin (ibid). Social Entrepreneurs are motivated by the desire to be a force of positive change, with a strong sense of integrity – keen on doing the right thing. The challenge is to channel all this energy through constructive channels, learning the many pitfalls of building a successful organization. These individuals have in a proactive way accumulated experiences that help strengthen their sense of self-efficacy (Føleide 2015). Many have found themselves at critical cross points through life, faced with important decisions of choosing between safety and certainty, or maintaining the course of integrity with personal reminders like “good things come to those who wait” and “patience is a virtue”.

Integrity Management is best achieved if incentives are tied up to a long-term goal, like a retirement celebration anywhere in the world at age 67 with fireworks at the exact birth time for members of a redefined pension savings program. Currently, the pension system in Norway is designed for citizens to earn a decent retirement through more than 40 years of employment. We know that the marginal value of money with respect to happiness is limited (Diener et al. 2004), and brain research on longevity show that maintaining an active lifestyle is important also after retirement (Diamond 2001). Even though I’ve been passionate about entrepreneurship for now 20 years and every opportunity to go solo as a pioneer web developer in the 90s, it is my ability to manage the integrity in the decisions I make which has allowed for me to avoid the path of least resistance. I have for instance realized that growing globally with all of the cultural differences in the various markets would be a tremendous challenge without venture capital. The alternative is to build relationships internationally, which I have now done for more than a decade. More importantly, I’ve come to understand the dark side of money while realizing that there are many others out there who care about the cause, which happily would collaborate under the umbrella of a redefined pension fund. With the purpose of uniting Social Entrepreneurs and Social Ventures to restore order under the threats of climate change and water scarcity. The eternal focus of a pension fund might represent a big enough vision to unleash unprecedented network effects.

3. Methods

When choosing the methodology for this thesis, many considerations were made. In particular with focus on “excellent performance that clearly stands out at a national level” in order to be awarded the top grade. Having already earned top grades and an A on my first master thesis in my “Innovation and Entrepreneurship” degree from University of Oslo, becoming best in my class, I opted to maximize on learning in my second master degree which is reflected in my 29 classes when the requirement is 12 classes. The master thesis is a unique opportunity to dig deep into a particular topic of choice, so I've given my research focus much thought from the very beginning. It was obvious that I would have to do a quantitative study with a specialization in Finance, and the statistical probability of being awarded an A was high for a well structured thesis displaying excellent insights. Even though I had become very comfortable with the qualitative methodology doing a case study in my first master degree and action research in my PhD, my decision to write a qualitative master thesis even had me surprised. For two years I was teaching “Quantitative Trading”, “Qualitative Investing” and “Impact Assessment” having developed a great number of topics, which had the potential to exceed my first master thesis topic. A thesis I was supposed to write with a fellow student, which he completed to a level of perfection – crunching through 25 years of accounting data to develop a 53 factor model which consistently outperformed the benchmark by a solid margin (Bergeng 2012). While it is many years ago since I realized deep flaws in current arrangements for retirement savings and how there clearly was room for improvement in the ways capital flows – it was still a hard nut to crack in coming up with an improved model. Having studied Social Entrepreneurship for more than 20 years, it was also becoming clear to me that organizations with a triple bottom line would be value generators of the future. After realizing that the missing element to encourage stronger collaboration between social entrepreneurs is a pension fund, it was clear to me that I had to combine everything I had learned 16 years in higher education to do a case study on how to redefine the next generation pension fund.

3.1 Sample selection and data collection

While most research is a study on what is, and particular quantitative studies seek to make general observations with statistical significance on large sets, the goal of this thesis has been to point out existing flaws with existing systems and describe an entirely new solution, which incorporates developments in modern information technology. In order to infer a scenario for the future, to interpolate a path in alignment with current trends and understand convergence, a rich amount of data with internal reliability and external validity is necessary. Data collection goes all the way back to when I was 5 years old, asking myself the basic, yet important, research question: “What is the purpose of life?” It took me 13 years and a special journey through existential topics to arrive at a satisfactory conclusion. Part of this effort was writing two FAQs (Føleide 1998) about “Dreaming” and “Lucid Dreaming”. I developed a multifunctional browser as a bachelor project in my computer science degree 2002, followed by a bachelor thesis on building an open source portal (Føleide 2005) in my marketing degree. The value of network effects were extensively covered in my master thesis (Føleide et al. 2008) as part of my Innovation and Entrepreneurship degree. Starting my second master at Norwegian School of Economics without financial support and not enough cash to keep it going for 2 years allowed me to become more comfortable with risk. Starting my 2010 PhD in Innovation and Entrepreneurship allowed me to gain insight in the world of research, its potential and inefficiencies. It allowed me to learn about the value of combining quantitative and qualitative studies in an excellent summer class (Case Study Research Methods) taught by Professor Andrew Bennett, Georgetown University, Washington, USA. 2011 marked the beginning of my 3.5 years stay in Silicon Valley, collecting data and performing analysis with an emphasis on action research. I initiated numerous projects and derived enormous insight about what challenges exist for social entrepreneurs going to market. First project started in a MBA class and eventually became a residential incubator for college students at UC Berkeley called “Agora Startup House”. Next project focused on agriculture, with the aim of introducing new technology and services to serve people and planet. A much bigger project, it required me to recruit interns as we experimented with ways to develop scalable solutions. Developing the “Nevara Urban Farming Platform” gave insight about how information technology can be deployed to strengthen local communities with social and environmental impact, as described in the pre-doctoral dissertation: “The Hybrid Model: Bringing Innovation and Sustainability to Social Entrepreneurship. A triple bottom line approach.” Returning to

Norway in 2014 allowed me to do a comparative study on Social Entrepreneurs in Oslo and the struggles they experience here compared with Silicon Valley. What I find is a thriving city, the fastest growing in Europe, with a great number of co-working spaces which all launched in 2013. Which means that the conditions for entrepreneurial success has improved dramatically the last 2 years, combined with improvements at Innovation Norway so that applications for Kr 150.000 NOK (~\$20k) in scholarship will be processed and answered in just 4 days. Useful contributions to this thesis have been PhD applications written during the first half of 2015, like “Essays on how the Government Pension Fund Global can both improve risk-adjusted returns and maintain a more sustainable portfolio” (Føleide 2015) which formed the basis for a PhD application in Finance to the Norwegian School of Economics. I also applied for a PhD in Leadership at BI School of Business the dissertation proposal: “Beneficial Intelligence (BI) as a predictor for Creative Destructive Leadership: A multilevel study on nascent Social Entrepreneurs” (Føleide 2015). And I made one to Norwegian University of Life Sciences: “Essays on how self-governing Urban Transformation can be achieved with a Triple Bottom Line market driven approach” (Føleide 2015).

Additionally, I've had the pleasure of getting to know Fil. Dr. Jan-Urban Sandal, an economic historian who specializes in social entrepreneurship research earning his PhD writing about Joseph A. Schumpeter in his dissertation (Sandal 2003). Insights derived from these experiences form the basis for describing the case: The Carma Fund (chapter 4). It describes a pension fund for social entrepreneurs with its foundation in time banking and data science, under the premise that these efforts have positive externalities in the long run and will serve a positive social and environmental impact.

3.2 Selection of theories and methods

The goal as defined in “Qualitative Researching” (Mason 1996) for a qualitative study, is to provide convincing arguments. In order to strengthen the arguments, a case study approach was chosen to highlight the contrasts between flaws in the existing system and the potential in a well-organized system focusing on lifelong learning. This has set the premise for choosing theories and methods, based on an assumption of fruitfulness and relevance to the two research questions. A qualitative approach was decided upon due to the emerging nature of

social entrepreneurship, as there is not sufficient data available to justify a sole quantitative approach. While comparing social entrepreneurship with more established organizational forms of managing resources, qualitative research might be used to quantify both positive and negative impacts on the triple bottom line. While social entrepreneurship with a triple bottom line form the basis for this study, the particular focus is still on how the introduction of a redefined pension fund can bring about synergies and collaboration with emphasis on shadow costs so that The Carma Fund can emerge as a well organized family which looks out for each other, allowing members to get the same sense of security as citizens in Norway have.

Still, the case study methodology has some limitations. The focus on particularities makes it unsuitable for scientific generalizations (Hamel et.al. 1993; Yin 2003). Although it contains elements of the general, there aren't enough to reach inductive conclusions, nor has that been the intention. The concern has merely been the viability of the singular case and causal relationship with the general surroundings. As with any type of qualitative technique, the case study methodology is subject to interpretation and bias. Sarantakos (2005) points out that this may weaken the objectivity, validity and reliability of findings and consequently the conclusions. However, this has not been forced upon the study *a priori*. To a large extent, margins of subjective error can be delimited with scientific rigor, openness (peer review) and triangulation. Triangulation techniques will be applied in future research projects. All references come from reliable sources and are open to peer review. Any cognitive dissonance experienced while reading this thesis may be interpreted as a sign of healthy skepticism, and as a supporter of the scientific method, challenges to this work and feedback on weaknesses yet uncovered will be much appreciated.

4. Case: The Carma Fund

This thesis has the aim of redefining how we think of a pension fund, so that it better serves its intended purpose. It therefore centers on a case given the name “The Carma Fund” which seeks to describe an eternal fund, which more inherently is designed to serve people and the planet these people depend upon.

4.1 Retirement Concept – The Carma Fund

The Carma Fund has its basis on Individual Integrity Management (Føleide 2015), which allow for a self-governing system consisting of individuals who seek to make a positive contribution to society. The basis of existing pension funds involves the primitive logic of putting money aside until retirement age, where The Carma Fund, as a voluntary form of supplemental retirement savings, seeks to identify and reward behavior which has positive externalities and somehow benefits our society. At the core, there is an understanding of the triple bottom line that is applied to lifelong planning, which allows for contributions from a very young age and well into the typical retirement period. The system seeks to facilitate optimal education through lifelong learning by doing, allowing each individual to feel appreciated by making valuable contributions to society while at the same time experiencing personal growth through appropriate challenges. The foundation is an assumption of win-win relationships, so that each individual involved can benefit with a surplus going to the society and our planet.

4.1.1 Social Intrapreneurship

The Carma Fund has its offspring in the general assumption that money and finance in a historical context already has fulfilled its overall purpose as an intermediate which modern information technology has made redundant for members of the society who can demonstratively make a new and positive contribution. While Social Entrepreneurship was first coined as a term in the 80s, the profession has only recently started to become publicly known in Norway. Historically, there has been a clear divide between public and private

sectors. A divide characterized by stability and predictability for those who choose to serve public interests, while those entering the private sector are more exposed to risk and consequently a possible upside. Social Entrepreneurship has as triple bottom line, with the potential of serving both People and Planet, combined with the prospect of long term Profitability. On an individual level many people identify strongly with the triple bottom line as they seek to make a decent living while helping people through practices which are environmentally sustainable. Yet, for historic reasons, this organizational form is not recognized legally. Either you establish as a for profit with the fiduciary duty of maximizing profits, with the following necessity of keeping costs down and charging the market as much as possible to remain competitive, or establish a non-profit with the legal requirement of serving people and the planet through collection of donations. More established non-profits with a religious background like YMCA has been allowed to operate while earning income in addition to donations and with all the tax benefits that follow the legal status of being a non-profit. YMCA has rebranded themselves as “The Y”, with less emphasis on religion and more emphasis on providing an affordable option for going to the gym, hostels and hotels with programs for social inclusion and healthy living.

Social Entrepreneurship describes the action of starting something entirely new, meeting a social or environmental need in the market while achieving financial independence. Social Intrapreneurship relates to efforts by individuals in an existing organization with a social or environmental objective. The Carma Fund is a lifelong planning system with the purpose of maximizing impact. Focus is on the individual with emphasis on freedom of choice, built on the assumption that members operate with integrity. Rotary is an organization established in Chicago 1905, which has since spread to over 200 countries with 1.2 million member spread across more than 34.000 clubs. Members are united through guiding principles like the four-way test. Of the things Rotarians think, say or do:

- 1) Is it the TRUTH?
- 2) Is it FAIR to all concerned?
- 3) Will it build GOODWILL and BETTER FRIENDSHIPS?
- 4) Will it be BENEFICIAL to all concerned?

The Carma Fund expect its members to ask themselves the same questions in their conquest for making a contribution towards a more sustainable society. While Rotary through a century of evolution has made a priceless contribution to our society, many internal procedures still

suffer from legacy concerns. Take for instance the stated mission of eliminating Polio, which made perfect sense in 1979 with an overly optimistic expectation of how much time it would take to reach the goal, without much thought given to the probability of the emergence of causes which might have greater social and environmental impact. Rotary is stuck in a path dependency which requires social intrapreneurs to bring about the internal change necessary to maximize the impact potential of Interact, Rotaract and Rotary members. The Carma Fund can assist in identifying and further incentivizing rotary members who engage in Social Intrapreneurship, and connect them with others with the same passion in order to facilitate the change management. Many Rotary members have for instance a deep interest in access to clean water, with many Rotary clubs engaged in water projects like installing affordable water purification solutions for indigenous people in Peru. The Carma Fund can also facilitate these efforts across generations, so that members of Rotaract can get involved in managing crowdfunding campaigns and building the website. The Carma Fund, if widely adopted, will allow for collaboration across major organizations for improved impact through better allocation and coordination of scarce resources.

4.1.2 Social Entrepreneurship as a Lifestyle

Many people in this world have a desire to change it, to make a contribution. It's particularly apparent among those who choose to practice law, bringing justice to the world. Yet, it's the profession characterized by one of the highest levels of suicide as many end up not following their dream, choosing instead to follow the money. The traditional divide between public and private, combined with the growing income divide, makes it hard to strike a balance.

Entrepreneurship also lures passionate and capable individuals drawn to the prospect of attracting investors for being on the cutting edge of change, with the interesting benefit of an early retirement as an angel investor. They too, find themselves as slaves of money, as that angel investment is made upon expectation of bigger investors coming onboard down the road while there is pressure to hire more talent to pursue the opportunity. Organic growth is virtually non-existent, and those who do it end up like lifestyle entrepreneurs – as the organization grows to a comfortable and manageable size. During 3.5 years in Silicon Valley I only encountered 2 companies that had successfully developed organically. ClickTime started in 1997 as a division of Mann Consulting, earning enough customers after a few years to become financially independent. The founder, Alex Mann, now receives phone calls once a

week from Venture Capitalist wanting to invest. Alex told the story of a Venture Capital funded direct competitor coming on the market in 2004, ramping up engineers and cross platform solutions, not being able to meet sales expectations and subsequently going bankrupt without leaving anything of value behind. Guidebook was founded in 2011, meeting the need in the market for an easy-to-manage mobile guide for companies of all sizes. With yearly prices upwards to \$6500 there was no need to take outside funding, instead running into other obstacles like hiring talented staff to meet demand. Facebook, with their staggering user growth, has been taking investor dollars at high valuations. Mark Zuckerberg owns 20% of his own company but has, through multiple share classes with different voting rights, the majority of votes, and effectively controls this \$230b company. There is no challenge for Facebook to make a \$19b WhatsApp acquisition, since a \$15b revolving credit allows the required \$4b to be paid in cash. The rest is paid in shares at the sole discretion of Mark Zuckerberg. This is a company which at the point of being the third biggest IPO in US history (raising \$16 billion), had only 4000 employees.

While many are drawn to the world of startups for the potential of making a lot of money doing what you love, how Mark Zuckerberg has been able to hack Wall Street shows that there many opportunities for Social Entrepreneurs that come together with a mission to embrace the idea of building startups as a lifestyle. Zuckerberg has shown that he can practically print money with the acquisition of smaller tech companies, as non-voting shareholders unhappy with exuberant acquisitions don't have much choice beyond selling their shares. Facebook is a for-profit corporation with a fiduciary duty of maximizing profits, which can use its dominant position to acquire other for-profit tech companies. But Social Entrepreneurs operating with a triple bottom line have a mission, which creates a common foundation for being united under the same umbrella without any single individual dictating the future development. The Carma Fund has as a Pension Fund for Social Entrepreneurs the potential for becoming this umbrella, allowing entrepreneurs to join a family of other entrepreneurs with all of the social benefits and financial security which comes through collaboration and sharing.

4.1.3 Social Inclusion Insurance

In an interconnected and liberal world with constant reminders of our shortcomings, and daily reminders on Facebook of the success of others, it is easy to feel excluded, inadequate and

depressed. Many are unhappy at work, where corporations are under constant pressure to increase productivity. The alternative for many is to work in the public sector, which in Norway is much the opposite as work protection is strong and demanding only 7 hours work days during 4 summer months – which can be frustrating for some employees when commute is 1 hour each way, often made worse by rush hour.

As Social Entrepreneurship is about more than just making money, with public contribution embedded in the business model, it is easy for those who are in different stages of development to construct an umbrella organization to support the full cycle from birth to death, to ensure the safety of members that have made a significant contribution. As Social Entrepreneurship by its nature has frequent social interactions, that aspect of life is well covered, given how critical efficient collaboration in smaller teams is for successful execution. The mutual dependency, the interdependence (Covey 1989), also is cause for a strong bond between teams members – in particular with The Carma Fund as a supporting mother nurturing development, mediating in case of conflicts and ensuring that everyone who contributes will get their rightful share of the upside. The Carma Fund's eternal status as a Pension Fund also has the soothing effect of ensuring that a fair resolution emerges, as the alternative of going solo has a much lower probability for success. It can be compared with moving out of your parents' home at age 6.

Rotary is a great example of an organization you can join while at high school (Interact), be part of in college (Rotaract) and enjoy until death in adult life (Rotary). I developed a deep understanding of the organization having joined Berkeley Rotary Club in California summer 2011, attending most of the their weekly meetings until I returned to Norway summer 2014. Having been invited to join the board, I got to experience that aspect of Rotary as well, and learn how service work brings people together. In addition to giving out scholarships for going to college, much effort is also dedicated to mentoring members of Cal Rotaract and East Bay Rotaract. I attended many of their events as a liaison between our clubs. There is a strong sense of belonging within the Rotary system, with strong traditions for welcoming members of other clubs. It is common for a Rotary member out traveling to visit the local club, and tell the story at the local club, often exchanging club banners. It is also customary when a member is hospitalized for any reason, to receive a greetings card with the signature of other members. At Berkeley Rotary Club they have become more liberal for who gets to join, with more hands on service work, as they find that members are dying of age. Many of the members are retired, and new members have to be at least 30 years old. At Oslo

Rotary Club the target recruiting age is 55, as they find it is hard for members to commit before they start approaching retirement age. East Bay Rotaract was created to fill the gap post graduation (Cal Rotaract) and pre Rotary. While the three Rotaract clubs of Oslo, Victoria Rotaract, Oslo Rotaract and Gimle Rotaract have a different approach, allowing for members up to age 35.

Just like a Rotary member can move to another city and be welcomed like a long-term member in the local Rotary club, The Carma Fund seeks to allow its members to build their Social Capital through a variety of contributions to society – so that other members of The Carma Fund can easily develop a picture of what they’re passionate about, and what efforts have been made in the past. The idea is to develop algorithms that are able to crunch through massive amounts of data to make individual suggestions that are optimized and aligned with capabilities and interests, to better unleash the creative abilities within and facilitate the channeling of our constructive energies. In this manner, latent synergies in our communities can unfold through a trusted system that ensures social inclusion. This insurance is paid for through efforts that are social in nature, so that what goes around – comes around (karma).

4.1.4 Lifelong Learning: Longevity

Through the generations, life has often been a mystery to many. The times we live in are both exciting and confusing. There is no longer a clear path to happiness, to wealth, to education, to security and to longevity. We live longer than ever before, we study longer and delay establishment of our own families. Many end up not having kids, and many women today also seek to build a career. As more and more are able to do what they love, the need and desire to enter retirement diminishes. Many still struggle to get decent pay for pursuing their passion, which in light of failure related to premature scaling (Marmer et al. 2011) might result in success with enough patience, persistence and eagerness to learn by doing.

Marian Diamond (88) is living proof that if you take care of your brain, then the rest follows. Dr. Diamond is a professor at University of California, Berkeley and has for more than 50 years conducted research on the brain. I had the pleasure of getting to know her during our daily 6 am swims at Hearst Gym, where I one day asked what is the biggest discovery she had made in her career lasting more than 5 decades. Obviously, this was not the first time she had received this question, as she had a well structured answer prepared for me. Prof. Diamond presented at the “Conference for the American Society on Aging and the

National Council on the Aging” a paper titled “Successful Aging of the Healthy Brain” (Diamond 2001) – in which she outlines 5 factors to Healthy Living: “Number one, and in my mind the most important, is DIET. What we feed this brain is a significant factor in its well-being. Two, is daily EXERCISE, and that applies to the brain as well as the body. Exercising the total body serves to maintain a healthy brain. Three, we must CHALLENGE the brain. It gets bored; we know that well. Four, we need NEWNESS, new pursuits, new ideas, new activities in our life. And five, last but definitely not least, we must nurture ourselves and each other: call it sharing basic HUMAN LOVE.”

The foundation for longevity starts at a very young age. I was only 5 when I remember thinking: “What is the purpose of life?” With limited access to information it took me still many years to even being my in-depth research for a satisfactory answer. I was 13 when Paul McKenna would appear on TV with a stage hypnosis show, which triggered me to buy books about hypnosis at the bookstore. I was fascinated about the underlying potential. I then read books about Past Life Regression, which is a study on reincarnation, and I could feel I was getting closer to an answer. At age 18 I had found a complex, yet simple, answer to my question. I had discovered what is real and eternal, and what can be called a “red herring” (something that misleads or distracts from a relevant or important issue). I had a strong desire to share with the world the insight I had gained, and managed to publish two scientific works filled with references before getting caught up in real life, as I had to serve my mandatory year in the military. The two documents were titled “Dreaming FAQ” and “Lucid Dreaming FAQ” (Føleide 1998), with references to a third document “Out of Body Experience FAQ” which I never got around to write. Mostly because I had developed a deep respect of what belief system others adopt, and how the purpose of life is very individual. The personal understanding still has allowed me to channel my energies constructively for lifelong longevity, forming a solid foundation for me to build upon. My passion for entrepreneurship started 20 years ago, as a pioneer web developer at age 15. My talent for finance and my passion for education have allowed me to manage my personal finances so that I've been able to stay in higher education for 16 years. I was making good money having been headhunted to a company called NetParadise during the dotcom days, so money hasn't been much of a motivating factor for me as I've maintained a frugal lifestyle my entire student life. My focus on people and equal opportunities has made me a Social Entrepreneur from the very beginning. With the triple bottom line of Social Ventures, the complexity is vastly more complicated for those who wish to attain global impact. I've studied finance for a great

number of years to figure out how to replicate the success of Facebook and Google, so that access to capital is granted without the loss of majority voting power, even having that as my research project for the first two years of my PhD in Innovation and Entrepreneurship before eventually realizing it is not possible to build a Social Venture with Venture Capital. I came to this realization after 4 months in Silicon Valley, while at the same time realizing at a conference called “Ideas to Impact” that non-profits with earned income is the way to go.

An age bias exists in Silicon Valley, as Venture Capitalists prefer investing in dropouts from highly respected universities. Those candidates take a leap of faith from a proven track to seek fame and fortune with the help of deep pockets, a model that worked well in the 90s when the market was booming. These dropouts know how to code, and typically have an interesting innovation that is gaining traction. Yet, that is just one out of five factors (Chen et al. 1998) for entrepreneurial success:

- 1) Innovation
- 2) Marketing
- 3) Management
- 4) Financial Control
- 5) Risk Ability

An entrepreneur who takes even \$1 from an angel investor enters a profit maximization track, as further success will lead to Venture Capital and eventually an IPO or acquisition by a publicly traded company. As Guy Kawasaki puts it: “think of venture capital as steroids: It might give you an immediate advantage, but it could kill you” (Kawasaki 2004:99). Publicly traded corporations have a fiduciary duty of maximizing profits. Hence, a Social Entrepreneur can only borrow money to finance growth, as selling shares gives the competitive disadvantage of not being able to adopt a triple bottom line. This poses a unique challenge for Social Ventures, as interest rates have dropped dramatically and they are expected to stay low. The problem is that capital with low interest is hard to obtain without having been in operation for many years with a solid profit margin. The Carma Fund, as a union of Social Ventures, can allow for this chasm to be crossed (Moore 1991).

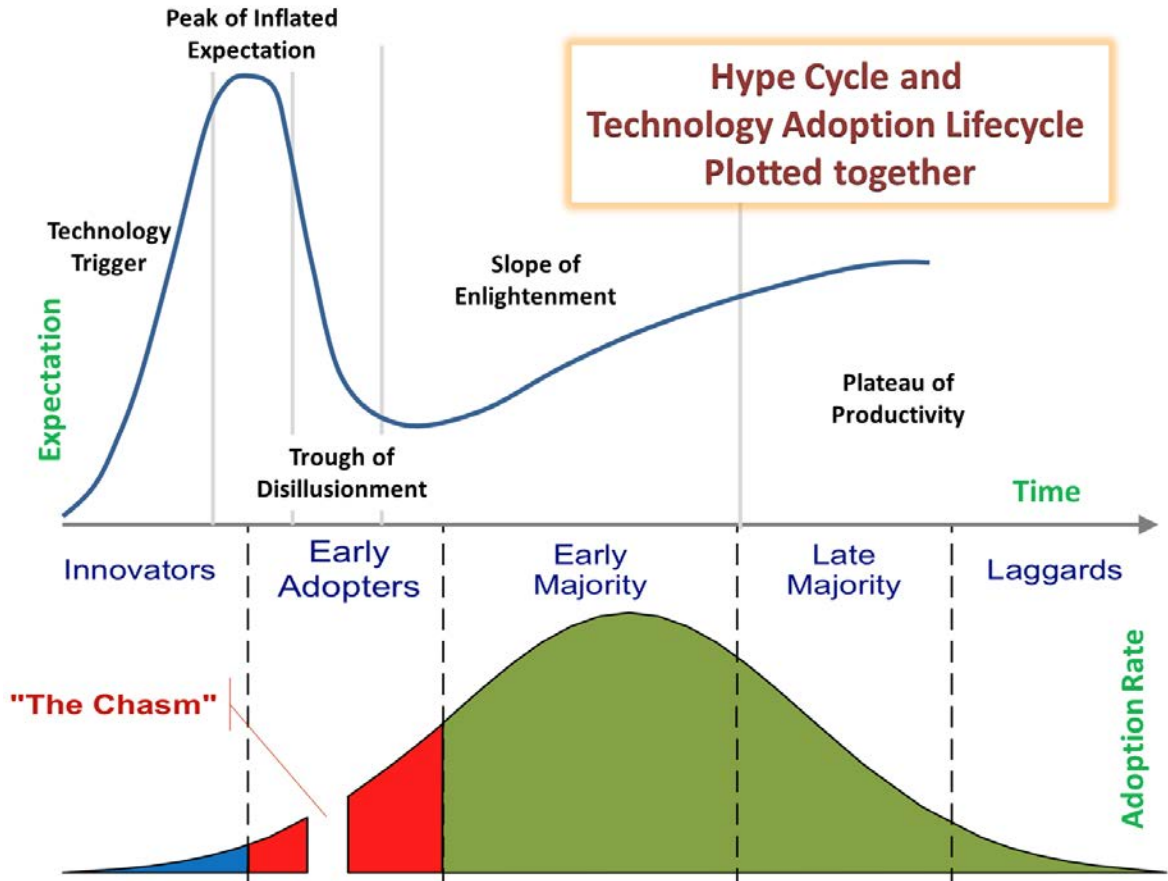


Figure 4.1: Hype Cycle and Technology Adoption Lifecycle

The Adoption Curve, as illustrated above, describes the typical lifespan of a corporation in the past. But as multinational corporations have become more agile and technological advances are not as disruptive as they once were, the very nature of our economy also changes. While building a startup in the 90s was with the ambition of going public (IPO), startups being built today have the ambition of being acquired by a bigger corporation. Scandals like Enron have made it more costly and less attractive to become publicly listed. Investors are more likely to get a good return on their money through mergers and acquisitions.

In a recent TED talk by Bill Gross (The single biggest reason why startups succeed), founder of IdeaLab, he unveiled a having made a large study on entrepreneurial success having analyzed more than 200 companies. The two biggest factors for success is “Timing” and “Team / Execution” with funding as the least significant factor, as illustrated below.

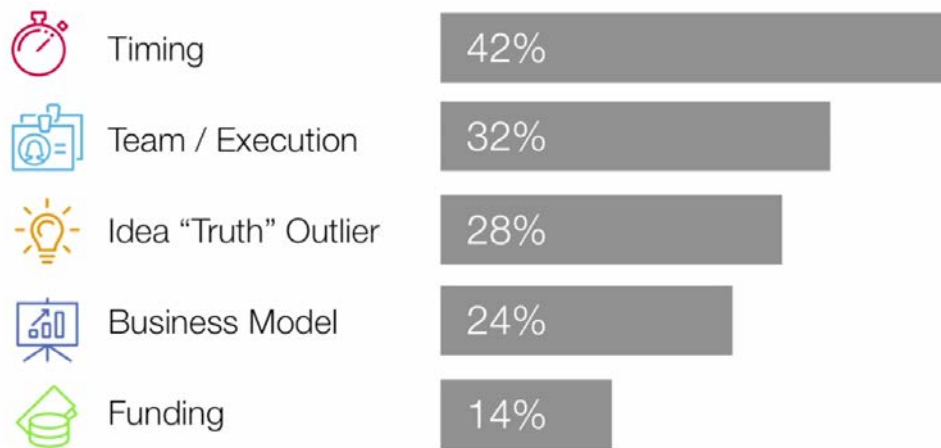


Figure 4.2: Top 5 Factors in success across more than 200 companies

Social Entrepreneurship with its triple bottom line provides the ability to unite people from all over the world, without money and contracts serving as glue for the organization to experience longevity. Instead of competition, co-opetition (Brandenburger et al. 2011) can be encouraged through an open model that allows social entrepreneurs to build upon the achievement of others in order to make a local impact. Through investment of time and efforts locally, social entrepreneurs also retain the ability to control further development of the value contribution – without being exposed to the same risk of traditional entrepreneurs in starting an organization which spins out of control, and becomes part of the problem rather than being part of the solution. Or even worse, being corrupted by the system and one's own organization while gradually accepting an intensified focus on profit maximization as exponential growth fades and the organization enters the late majority group in the adoption curve. In the past, an organization would eventually move into the laggards group and lose its dominant market position. A rule of thumb is that the newcomer has to be 10x better than the incumbent to disrupt the market, which is increasingly becoming harder to do while bootstrapping and stock options not having the same attractiveness. What is happening now is that organizations that would normally fade and die, are able to stay on top of their game through acquisitions of potential competitors and complementary services. This has the added benefit of bringing onboard talent to grow the organization.

While making good money is still within reach, many end up becoming an employee of either a larger corporation or Wall Street. Which means that most likely one becomes either Mark Zuckerberg who has to continuously show ever increasing user, revenue and profit growth in a finite world to keep Wall Street happy, or one becomes an employee with a

contract that limits their freedom of choice, so that you're confined to headquarters for the remainder of your career. One might enjoy the status and recognition of being associated with Facebook, but that doesn't imply optimal learning potential. One might enjoy the safety and predictability of a larger organization, while curious about how it would be to work at a smaller organization or even doing a startup. In the meantime the clock is ticking, and all the excuses not to take a chance will reduce the likelihood of making the shift. In the end, one might get bored of the daily routine but have become too comfortable to do anything about it. The Carma Fund with its foundation in brain research (Diamond 2001), acknowledge the individual need for challenges and newness, in a reciprocal loving environment, giving its members, the social entrepreneurs, an attractive option to the traditional methodology for building a startup – so that synergies of collaboration can be unleashed. This would allow for a unique mix of security and excitement through an insurance structure in the form of advanced data science.

4.1.5 Purpose of Life: Self-actualization

Maslow's pyramid of needs (Maslow 1943) as illustrated below gives a good foundation for understanding the purpose of life. While this hierarchy of needs looks simple and fairly basic, it is not a step-by-step guide for each and everyone of us to fully realize our full potential. Developing personal skills in the 5 factors for entrepreneurial success (innovation, marketing, management, financial control and risk ability) gives a better foundation for avoiding the pitfalls of failure. Timing is the biggest success factor, which combined with the avoidance of pitfalls will ensure solid allocation of resources in alignment with market trends.

“What a man can be, he must be. This need we may call self-actualization... It refers to the desire for self-fulfillment, namely, to the tendency for him to become actualized in what he is potentially. This tendency might be phrased as the desire to become more and more what one is, to become everything that one is capable of becoming.”

(Maslow 1954:93)

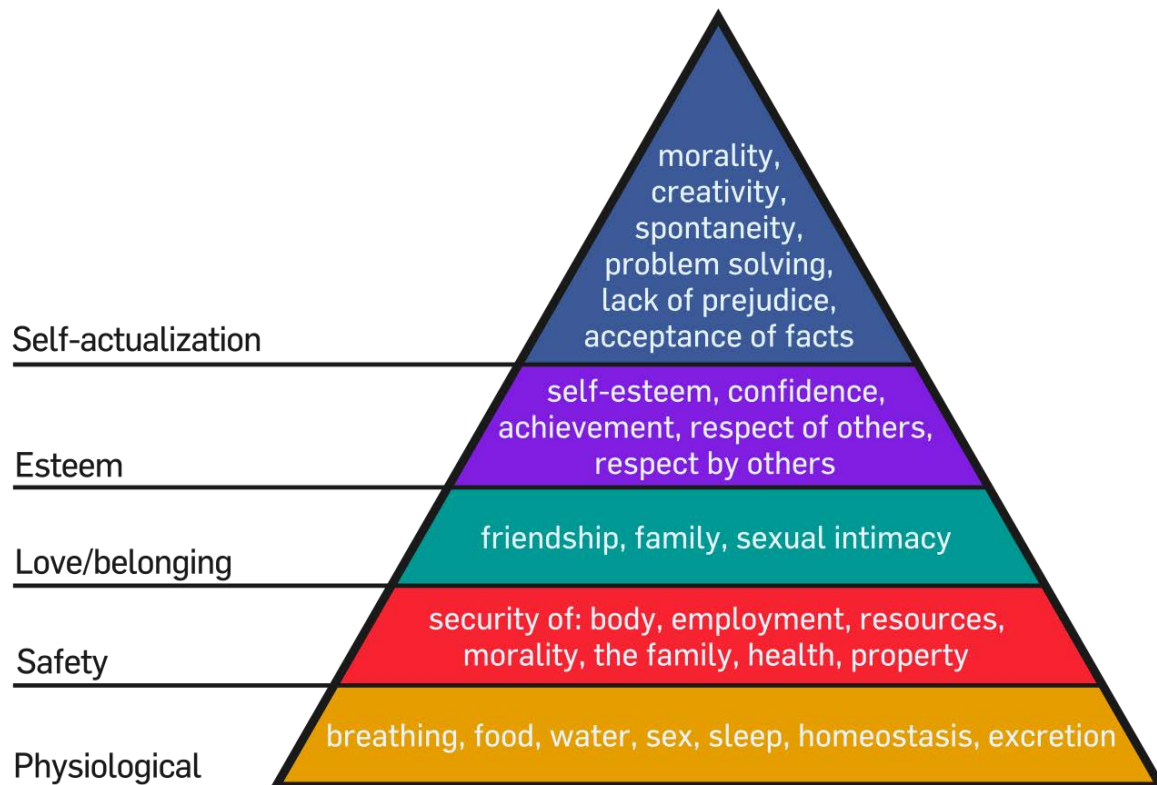


Figure 4.3: Maslow's hierarchy of needs

In 2012 I presented my paper “The importance of self-efficacy for entrepreneurial success” (Føleide 2013) at a research conference. I described what gives your self-efficacy a boost, the personal feeling of one's ability to master challenges. In the US, failure is seen as a good thing, as a source of learning. If you fall, you are encouraged to get back up on your feet and try again. While in Norway we have the Law of Jante (Fuglsang et al. 2009) which dictates that one shouldn't think of themselves as better than others. If doing a startup were easy, then everyone would be doing it. So those who do tend to break the Law of Jante, since one obviously thinks they have what others lack in order to succeed. Culturally, failure is not an option in Norway. Norway does have a wonderful public educational system, which allows for extracurricular experiences to be gained in the process of earning up to 2 bachelor's degree and 1 master's degree. You can accumulate student debt for the maximum duration of 8 years to cover living costs after which payments can be deferred for up to 3 years. There are 4 ways of building self-efficacy (Bandura 1997):

- 1) Experience
- 2) Modeling
- 3) Social Persuasions
- 4) Psychological Factors

Studies show that the ideal age for being awarded a Nobel Prize is 39 (Jones 2010), and that this age corresponds well with the age for launching a successful startup (Wadhwa 2010). This is in stark contrast with the growing age bias of Silicon Valley, indicating that there are much potential for The Carma Fund to tap into – as a wealthy, globally connected and powerful support player, providing enough confidence for people in this age group to take a leap of faith.

Until I had an epiphany at age 31, I was concerned about becoming a father and how it would put my ambitious plans at risk. But after having made a full commitment to Social Entrepreneurship with the decision to not get involved with institutional capital, I became filled with the sensation that it would be okay, one way or another. This shows how far it is from theory to practice, since the theoretical and intuitive understanding was there already during my teenage years. But I didn't fully embrace and accept it until more than a decade later. My foundation for future success has deep roots, with a grandfather who experienced much entrepreneurial success in launching several ventures. While my father with his strong intellectual capacity, as one of the pioneering researchers in particle physics, ended up as a teacher at the elite high school (intense two year program). He returned to care for his aging parents instead of pursuing a career at CERN institute. Good news for me, considering recent neuroscience research indicating that we have genetic memory (Dias et al. 2014) explaining my deep interest in entrepreneurship while predominantly maintaining an academic approach with emphasis on action research. At age 43 my father met my 17 year old mother. The 26 year age difference is quite unique. My father was 55 when my 2nd sister was born, so I've known my whole life that there is no rush in starting a family and I've seen with my own eyes how going beyond the average can actually be a good thing considering our significantly longer life expectancy. 10 years ago I bought a big house near downtown Oslo, and I had a car ever since my 2nd bachelor's degree. It is not like I come from a wealthy family as my father was a teacher and the sole provider for our family, but I've still been able to apply my education to make the right decisions with good timing. Consistently throughout my life I've been able to focus on realizing my full potential building the necessary foundation in higher education. Some would call it luck, but for me it is rather a question of being comfortable at taking calculated risk. As I would gradually improve my abilities in the first 4 factors for entrepreneurial success (Chen et al. 1998), developing the ability to take risk requires many of the circumstantial conditions in order to properly acquire the skill. During my 3.5 years in Silicon Valley I would initially go there with a scholarship, a salary and reimbursements of

costs. Eventually I'd be without a positive cash flow, needing to get creative in staying solvent, which helped me break out of the safe academic bubble and become more market oriented.

As an aspiring social entrepreneur my whole life, I've had my share of co-founder challenges. While I generally have a good relationship with my 3 sisters, there is the occasional disagreement. My longest relationship lasted 4 years, which also had its moments of not being in perfect harmony. Many founders aren't excited about the idea of having employer – employee relationships with all coworkers, nor do they have the cash ready to pay a competitive salary. Instead, the idea of finding one or two co-founders sounds appealing. Ideally, the team should compliment each other to properly fulfill the 5 factors for entrepreneurial success (Chen et al. 1998). But typically it is two or three guys who are in their young 20s studying computer science, having been accepted to an accelerator program, which end up getting enough funding to drop out of university to pursue the opportunity. There is much complicated psychology involved in this process, with pride, acknowledgement and social status as part of the decision process. Money and greed in combination with incomplete information might trigger the initial commitment, while pride and stubbornness might keep these students from finishing their degree. Cofounder conflicts have even made their way to Hollywood with the movie, *The Social Network* (2010), describing the fallout between Mark Zuckerberg and the Winklevoss brothers which ended with a \$65 million settlement in 2008. The movie also describes how Zuckerberg's co-founder Eduardo Saverin became diluted to almost nothing in an emission following Mark's relocation to Silicon Valley. This resulted in another lawsuit which resulted in an undisclosed settlement out of court and the company affirmation of Saverin's title as co-founder of Facebook. These cofounder conflicts made Venture Capitalists like Mark Suster proponents of hiring co-founders (Suster 2011). Jason Calacanis, another Silicon Valley celebrity, wholeheartedly agreed during an interview in 2014. Compare this to a traditional non-profit where instead of having a founder as an employer, there would be a mission that can unite a group of people as they seek to make the world a better place. Since 2013, famous accelerators like Y Combinator have started allowing nonprofits to join their summer and winter cohorts. They also receive symbolic funding, though there are no strings attached, as Y Combinator wouldn't have any ownership stake in the nonprofit. We know from the *Startup Genome Report* (Marmer et al. 2011) that 70% of startups fail as a function of premature scaling, which means that too much money and too much attention can actually be counter

productive. The social network Friendster, attracting 3 million users within a few months of its launch in 2002, had a feature, which made sense in the beginning – that would calculate 6 degrees of separation. But as the network grew, and with it media attention, insufficient attention was allocated to maintaining the code – so that the site would become slower with every day that passed, reducing the overall quality experience. Facebook was then able to attract these users with a better experience and an expansion plan which solved these issues related to premature scaling. Bill Gross from IdeaLab could also share with us that funding ranked low on startup success, which confirms findings I've made myself.

	Revenue Share	Debt	Equity
Cost to the business	The cost is up to you, because you set all of your own terms	Cost is current interest rate	Cost is in the form of giving up ownership and often control
Change in ownership	You retain all ownership	You retain all ownership	You give up some ownership to the investors
Financial obligation	You payout in proportion to your revenues each year	Your payout is fixed at the interest rate each year	You payout a percentage when the business is purchased
Investor motivation	High – they want to help increase revenues because this increases their rewards	Low – they only want to be paid what they are due, but have no stake in your success beyond that	High – they want you to be able to sell the company so that they can get their reward

*Table 4.1: Revenue share as an alternative to debt and equity funding
(Source: ProFounder 2011)*

In 2011, upon discovering how the structure of non-profits solved most of the pain points I had been struggling with back in Norway, I developed a new model for internal use in newly established non-profits to allow for a proper risk-reward function with inspiration from the concept of revenue sharing as the basis for funding (see table above) and interest rate projections of the Norwegian Central Bank. As illustrated below, you can see how there would be a compounding return on the value of hours invested with declining function as the

organization matures. And the amount of money co-founders of the non-profit put in would also have a declining return function, structured as a loan to the organization. Repayment of these loans, for those who need cash, would begin once it becomes financially responsible for the organization, as it becomes solvent with earned income. Everyone else would enjoy compounded interest as is expected on 401k retirement savings.

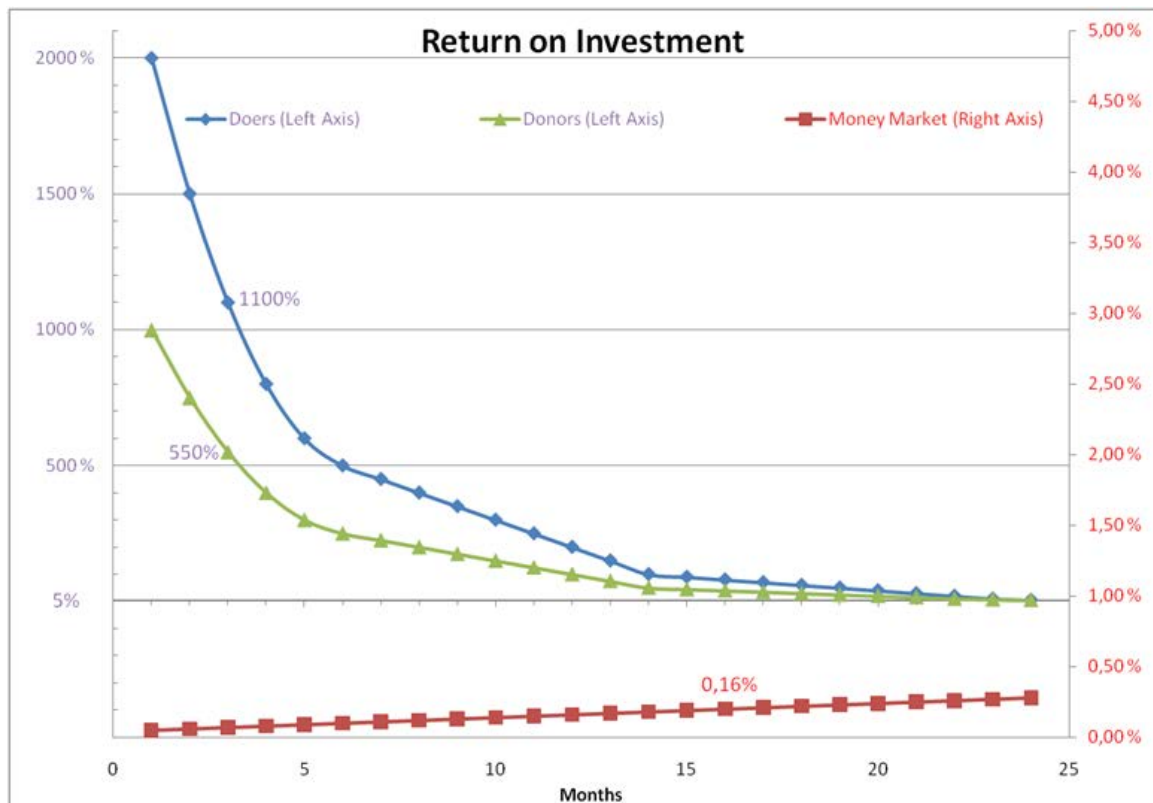


Figure 4.4: Rewarding early contributions in non-profits with earned income.

Ideally, the initial cofounders of the non-profit should be financially independent, making contributions to the non-profit as they're able. Since nobody owns shares in a non-profit, the nature of the organization allows for an organizational scaling without petty disagreements on how to fairly allocate 100% of the shares and related issues with stocks options, vesting, etc. As funding has a diminishing contribution to entrepreneurial success, as the cost per online user approaches zero, the value of building a for-profit also diminishes when path dependency is considered in regard to maximizing profits having taken on institutional capital. As most industries are becoming commoditized, with even services losing market share to platforms like AirBnB and Uber that enable a peer-to-peer market, we find that the convergence is going towards social capital. Trust is the glue in social relationships, so those who choose to do something as altruistic as building a nonprofit to facilitate long social relationships through

a trustworthy foundation might very well have come across the secret elements for realizing a latent potential present in our society. It is the process of unleashing these synergies and the impact which follows that motivate the achievement and self-realization of one's full potential. The Carma Fund seeks to facilitate individual self-realization through advanced use of data science.

4.1.6 Beneficial Intelligence: Integrity Management

In my paper “The role of Information Technologies in improving Universal Access to Clean Water” (Føleide 2015) I describe how the current and developing Water Crisis has its roots in poor governance. Innovation Management for improving access to clean water therefore relates to the improvement of governance. Integrity is defined as “doing the right thing, even when nobody is watching”. Which means that the most effective form of governance is when conditions are put in place for encouraging and rewarding integrity. The Carma Fund at the core is designed as an Integrity Management system through development of Beneficial Intelligence. Beneficial Intelligence (BI) is a term I coined in a recent application for a PhD in Leadership at BI Business School, which is measured by Beneficial Quotient (BQ). BQ is determined by what mix of IQ, EQ and SQ the individual possesses with the general idea that one isn't stronger than one's weakest link. IQ is the traditional measure for intellectual processing of logic and abstract thinking. EQ (Emotional Quotient) is the measure for emotional intelligence, the ability to understand emotions of others (empathy) and one's own emotions, combined with the ability of using this insight to influence others. SQ (Spiritual Quotient) is a measure for personal integrity, and the ability to apply high IQ or high EQ for a better society – not just personal gains. Someone who believes in reincarnation (either consciously or subconsciously) is more likely to care for personal relationships at a deeper level, with the understanding that there is a mutually beneficial relationship in many interactions from past lives, the native state of existence in-between lives and future incarnations. Likewise, there is a greater appreciation for our planet for the function it has served in past lives and its preservation for future incarnations. Those who do not explicitly believe in reincarnation, existence before life and continued existence after death often choose to call themselves humanitarians to feel good about themselves. Then there are those who optimize within what they believe, so in the absence of believing that there is anything before life and after death, life itself becomes meaningless (nihilism). With the understanding that

we all will die, an obsession about immortality might develop, and most are materialistic in search for something that gives life meaning and purpose. The accumulation of wealth beyond what can be personally consumed gives little meaning without kids to carry on the family name, who can inherit the legacy that remains. Those without faith are less inclined to have a positive outlook on the future, and can easily panic in an economic downturn as they see a bigger percentage of their wealth crumble. Without faith in forces and intelligence beyond that of what is purely of material nature, there is also zero respect for Karma which means that no effort is made to analyze the consequences of one's own actions. Rather they operate with an understanding that the game operates solely on a survival of the fittest basis, further fueling the inner need for accumulating wealth. Extreme cases might be characterized as narcissistic psychopaths with Asperger's syndrome for those who come close enough to experience how far they are willing to go. These individuals have often obtained respectable titles in the society, as doctors, lawyers, researchers, psychologists, etc. which are generally skeptical and conservative.

Social Entrepreneurs often have a keen interest in self-development with a high degree of self-efficacy (Føleide 2013) and a wide array of experiences. They normally fit well with the characteristics of the top layer of Maslow's Pyramid of Needs (Maslow 1943): morality, creativity, spontaneity, problem solving, lack of prejudice and acceptance of facts. It is therefore natural to assume that Social Entrepreneurs would be interested in getting together with other Social Entrepreneurs to improve their Beneficial Intelligence. The Carma Fund seeks to facilitate these connections and improve individual Integrity Management with the comfort and security that The Carma Fund can bring to this growing profession. Members of The Carma Fund will be given access to a dual-branded initiative called both Interdisciplinary Mindfulness University (IMU: imu.org) and Integrity Management University (IMU) with curriculums specifically designed to find inner peace for doing “the right thing” in an open and collaborative manner characterized by a win-win-win understanding. A personal win, a win for the counterparty and a win for the society.

4.1.7 Enlightenment: The 10th Dimension

This subchapter is likely to be “lost in translation”, just like the 7th chapter (The Economy as a Whole) of Schumpeter's book “Theorie der wirtschaftlichen Entwicklung” (1912) when it was translated to English with the title “The Theory of Economic Development” (1934).

Schumpeter felt that the chapter confused readers, as the main message of the individual entrepreneur being the catalyst for change and creative destruction got lost. Eleanor Roosevelt once said: “Never underestimate the ability of a small group of dedicated people to change the world. It’s the only thing that ever has.” This aligns with what Schumpeter has been trying to tell us since 1912 yet Keynes was the most cited researcher on the topic of innovation and entrepreneurship until 2003. As Silicon Valley and the dotcom bubble generated much buzz in the 90s, researchers started looking beyond macroeconomic explanations and made more references in 2003 to the work of Schumpeter.

Rob Bryanton has for a decade been explaining how we can imagine the 10th dimension (Bryanton 2006) which basically is a collection of all possible combinations of space and time. Morgan Freeman asks in the Discovery Science show “Through the Wormhole”: “Is Gravity an Illusion?” and “Does Time Really Exist?” Whatever the answer is, these shows do give food for thought and makes us question the nature of reality. Physicist Julian Barbour has found that time does not exist, that the past is just a different configuration in space of now (Barbour 2000). While Physicists agree that The Big Bang created space, they cannot seem to agree with regards to time. Physicist Lee Smolin believes that time is older than space (Smolin 2013). Steve Weinstein believe that time has two dimensions (Weinstein 2008), which would solve the riddle of quantum uncertainty. But it might be impossible to prove this invisible dimension, as combined with the 9 spatial dimensions of string theory the math gets really complicated.

Physics is not the only path towards an answer of the very nature of space and time. Psychologist Dr. Michael Newton published his first book “Journey of souls: Case studies of life between lives” (Newton 1994) at age 63 in the early 90s. In that book, having practiced spiritual regression for a decade, he presents his research having hypnotized hundreds of clients. He brings them into a very deep hypnotic state where they are able to get in touch with their higher consciousness, and for instance share the insight gained after 250 lives. There is a striking similarity about the answers presented while in this state of consciousness, where Dr. Newton can ask about the nature of space and time. He learned that neither time nor space really exists in our assumed linear form. Space was created to accelerate spiritual growth through the introduction of a denser dimension that restricts our ability to get around. Time was created to keep everything from happening at once. This imposes stronger limitations upon us with regards to space and time, which facilitates the development of our personal integrity. “Why do you see the speck that is in your brother's eye, but do not notice

the log that is in your own eye? Or how can you say to your brother, ‘Let me take the speck out of your eye,’ when there is the log in your own eye? You hypocrite, first take the log out of your own eye, and then you will see clearly to take the speck out of your brother's eye” (Matthew 7:3-5). Our physical dimension is actually the closest we get to this concept of hell. When not incarnated on Planet Earth, we are not bound by the limitations of space and time either.

Which fast forwards us to the revelation that we can with persistence and practice build sufficient self-efficacy to access the 10th dimension with our mind and reach a state of enlightenment as we apply this insight to literally alter the future with every determination about what we are committed to do given any possible occurrences however unlikely they might be. Dr. Newton (PhD) is the modern day Jesus, having after 2000 years reopened up the door to a belief system with a foundation in research. In year 2000 he published his second book titled “Destiny of souls: New case studies of life between lives” (Newton 2000) with more in-depth description of the nature of reality in the spiritual realm. His third and last book came out in 2004 with the title “Life between lives: Hypnotherapy for spiritual regression” (Newton 2004) which describes how his technique can be replicated. I was 16 years old when my friend and mentor Roy Wiseman came to visit in my hometown in the early days of the Internet. My little town of 5000 inhabitants had hardly seen a man of dark color before. I certainly hadn't. Roy lived in California, working for NASA. Apparently it was normal at their colleges to hypnotize each other for fun, so at a friend's birthday party we did that with great success. What I had read in books was no longer fiction. It was fact. I had seen it with my own eyes. Since then I've hypnotized others. Not for fun, but with a clear purpose of doing Past Life Regression. Again, with great success. It is astoundingly easy. So not only has Dr. Newton done all the heavy lifting for all of us, but he has also applied a method that anyone can replicate at home. A critical criterion in the world of science is the ability for doing peer review. The insight that can be derived from Dr. Newton's books and applied in everyday life has virtually no limits, as you also get to learn that life doesn't just unfold in a chain of random events. Those advanced in their philosophical thinking might also start to play around with the idea of parallel incarnations. All adhering to the fundamental law of nature, that energy cannot be created nor destroyed – only change shape. Similar principles apply to the governing of Karma.

Insight that I derived through more than two decades of research enabled me to buy a house for \$1 million as my first purchase of real estate, 6 days after having googled

“mortgage” while not even being in Norway at the time of purchase – conducting all necessary transactions from Germany with the use of an IP phone. I’ve come dangerously close to personal bankruptcy on several occasions at the risk of losing my house in my pursuit for higher education, having an understanding of major life events that allow me to remain calm and be somewhat mindful as the world around me as I know it is collapsing. Eventually, as the accumulation of experiences allow for a deeper trust in personal intuition and the workings of karma, an idea of perfection starts to emergence. That there might not just be a few alternative realities out there, but an infinite number of them, and that the co-creation of our future causes the experiences of present time to approach perfection. But in order to experience perfection, we first need to acknowledge that perfection is imperfect. Those who arrive at this epiphany are one step closer to enlightenment.

Lifelong education is the very foundation of The Carma Fund, with a system of mentors, which can provide a custom path to enlightenment and improve societal conditions for spiritual growth to better align Planet Earth with its fundamental purpose. Neurologists find we can only cognitively process 30 signals out of a pool of 11 million signals per second (Nørretranders 1998), which just confirms how vastly different perceptions of reality can develop as we go through life along with our sense of self-efficacy (Føleide 2013). This means that we all need mentors at all ages, and that certain influence is critical at a younger age. It’s especially important to have mentors in a more liberal society with nearly infinite degrees of freedom where personal integrity gets repeatedly challenged both a work and at home. The Carma Fund therefore serves more than the purpose of introducing a more efficient system for retirement savings with appropriate timing of an aging population, as tension in relationships can be seen as a source of personal growth. This should cause a change in how we optimize, away from a single dimensional optimization on harmony in search for the good life, towards a two-dimensional optimization for both harmony and tension. The Carma Fund seeks to facilitate the formation of such relationships and provide the tools and assistance for resolving conflicts so that we can develop a deeper insight through the challenges we experience on our path to enlightenment.

4.2 Market Analysis

While the economy throughout history has been cyclical, it is becoming more and more obvious that after the 2008 financial crisis the economy experienced neither a V nor a W rebound, but instead resembles an L for the middle class. “Time As Money: A Documentary Film About Time Banking” from 2014 clearly describe the social value of earning time dollars as those laid off, unable to find paid fiat currency work, are instead able to find work through the local time bank – earning hours, which in turn can be utilized at the local Farmer’s Market for food. Arrangements can be made with other time bank members for storage in order to save money by not needing to pay for storage space. Time Credit as a complementary local currency both serve as a social safety net for those who fall off the corporate wagon and serve as a counterforce to the money drain effect that Walmart stores have in communities where they have a presence. Time Banking also has the added benefit of social inclusion, so that citizens actually get to know their neighbors. Time Banks that reach a critical mass in their community can properly organize themselves to become more self-sufficient, collectively organizing community gardening and get group discounts installing solar power in the whole neighborhood. Time Banking members can chip together funds for volunteers who wish to keep hens in their garden, combined with an egg distribution system and an app for members to give notice when they go on vacation. This arrangement might be expanded to include the seasonal Community Supported Agriculture (CSA) system and complimentary home deliveries of handpicked produce from the weekly Farmer’s Market. The possibilities are endless, which would make individuals and local communities more resilient. The Carma Fund as a time banking platform, might contribute with all the services which make sense at scale – like cross-platform Software as a Service (SaaS) for exchanging hours, insurance, education, training, mentoring, conflict resolution and retirement savings. The Carma Fund would position itself as the trusted pension fund that would ensure that this invention from 1832 (Pacione 1999) gets a stronger position globally, to serve a similar purpose as the social security net that Norway with its socialism is known for. The 2015 Social Progress Index put Norway at #1 ensuring equal opportunities for all its citizens irrespective of family background, putting us at the global top in social mobility in healthy competition with our Scandinavian neighbors.

The Carma Fund will eventually evolve to provide much needed overhead in Information, Communication and Technology (ICT) solutions to facilitate collaboration and

coordination between humanitarian organizations like Red Cross, Medics without borders, CARE and Rotary to better respond to natural disasters and engage in preventative efforts. Many donors care about how big percentage of the donation goes to the cause versus the overhead. Dan Pallotta became a TED talk celebrity, entering the list of 100 most-viewed TED Talks of all time, with his talk “The way we think about charity is dead wrong.” Dan argues that it would be a real social innovation if we can change our attitude towards keeping the overhead low (Pallotta 2008), and rather realize that there is a real value in coordinating the utilization of scarce resources. The Carma Fund acknowledges that behavioral changes takes a lot of time, and instead seeks to become the overhead organization which does all the heavy lifting with respect to technology, software and data analysis and offer these services pro bono to non-profits around the world. This comes in addition to offering mentors, education, insurance and retirement savings for volunteers and non-profit employees. The Carma Fund has the potential to increase the social and environmental impact of non-profits while ensuring predictability and stability for those who wish to remain in the non-profit sector, at no additional cost for non-profits, solely by unleashing latent potential possible with the adoption of modern information technology for better utilization of existing resources.

5. Analysis

We know that power corrupts (Dalberg-Acton 1907). There are more slaves now (in absolute numbers) than there has even been before, with the label corporate slaves (Hartmann 2002). The US calls themselves a democracy, yet wealth has an dramatically uneven distribution. Robert Reich compares the share of wealth creation top 1% took home in 2007 with unsustainable levels of the late 1920s (Reich 2008), which were followed by “The Great Depression” in the 1930s. Quantum easing and bailouts have maintained the status quo, while unemployment remains high and inequality keeps widening. Globalization has made everything so much more complicated, making the complexity of the cold war a walk in the park in comparison. Money has lost much of its original value, as both cash and credit exist in abundance in the hands of many, while competition brings down prices – allowing for those having a talent for finance and math to somehow become “too big to fail”. Even Donald Trump owed more than a \$1 billion to his banks at one point, allowing him a second chance instead of acknowledging the sunk cost by making him personally bankrupt. Some would argue that cronyism (crony capitalism), as defined by a blend between political and capital interests, has been going on in the US for more than 100 years with the establishment of Federal Reserve System (FED) in 1913 and Internal Revenue Service (IRS). The FED is owned by the major private banks (its members), having an exclusive license for lending money into existence, which again to a large extent is recollected through various taxes (IRS). The US Federal Reserve remains the single biggest holder of Treasuries, after snapping up \$2.5tn through its quantitative easing program. In April 2015 Japan surpassed China as the biggest foreign holder of US Treasuries (\$1.2tn), as Japan’s Government Pension Investment Fund has seen the need for diversification with a negative savings rate and a declining population. The US is in a unique global petrodollar position, allowing the government to finance their deficit by selling bonds, instead of just printing money – as there is a foreign demand. The financial crisis has had a high price tag, as global debt surpassed \$200tn, with \$57tn being added in the 7 years following the credit crunch (Dobbs et al. 2015). Those running for president are required to secure billions of dollars in donations, which at least has indirect consequences over time on the political regime. Norway has a number of laws to ensure smaller political parties retain a representative voice such as not allowing political parties to make TV commercials. Mayer Amschel Bauer Rothschild, founder of the

Rothschild banking dynasty once said: “Give me control of a nation's money supply, and I care not who makes it’s laws.” Corruption is a global phenomenon, but the organization Represent.Us, which is working to have anti-corruption laws incorporated on the local level, claim that corruption is legalized in the US. They refer to a Princeton study (Gilens et al. 2014). As power corrupts, the underlying systems are also corrupted and are likely to have been flawed from the beginning. As we know from Information Technology these systems have legacy issues and weaknesses which gets exploited by profit seeking corporations. The clear divide between for-profits and non-profits in the US creates a divided and confused population, as the law puts many constraints on organizations that were never supposed to grow into multi-national corporations. Path dependency makes it hard for any single individual to change the system through established channels. Benefit Corporations have been founded with the best intentions, but are not attractive for institutional investors that by law are required to maximize expected returns, nor do they derive the tax benefits that non-profits have. This leaves Social Entrepreneurs confused, as they seek to maximize impact with a triple bottom line. In the period 1970 - 2001 only 144 non-profits surpassed \$50 million in annual revenue in the US, while 46,136 for-profits reached the same benchmark (Pallotta 2012) – clearly indicating growth potential for non-profits with earned income. The Carma Fund's potential to enter the market and considerations for successful adoption will now be considered.

5.1 The Carma Fund’s market fit

Norway was a poor country post 2nd World War, with a strong community participatory culture and traditions for not letting anything go to waste. Clothings would be passed on to younger relatives and repaired if damaged. The secret to Norway's wealth and #1 placement in the 2015 Social Progress Index isn't in our distribution of oil money as pocket change to our citizens, but rather our positive outlook on the future and ability to do long-term planning creating a positive feedback for proper governance. In fact, most of our oil money goes into existing global corporations outside Norway, to prevent our economy from overheating. Our history as a poor country has helped build a strong work ethics foundation. During the gold rush in California, the Chinese were eventually banned from entering the country because of their high work ethics and above average productive hours. Productivity is causing

overheating to our planet literally in the form of global warming (Field et al. 2014), which has the undesired effect of an increasingly unstable climate. What the world needs is a better system for governance, and The Carma Fund as a pension fund for social entrepreneurs fit well with trends in the market.

5.2 Critical strategic considerations for a successful adoption

Organizations would historically in the US come and go, while employment in Japan would last a lifetime. With population growth and weaker borders in the midst of globalization, allowing for a flood of synergies, innovation is a word that has become commonly used in both private and public sector in order to stay relevant in the economy. In the US, “Social Profit Sector” would better describe generated value since the term “non-profit” might be misunderstood for not being able to make money. For non-profits to serve social and environmental causes, the people behind them need to somehow support themselves through donations or a supportive spouse. As personal relationships have become more fluid and fundraising more challenging, the management at non-profits are forced to become more innovative and think about how they can leverage their brand to generate earned income. The shift away from the simple traditional non-profit model of collecting and spending money and adoption of more innovative approaches to become self-sustainable allow for management to spend less time on fundraising. In the for-profit sector, only 3% on the time is spent fundraising as there are well-established systems for getting a wide range of investors all the way from angel to IPO – while management of some non-profits might spend upwards to 100% of their time on securing donations, as 1000 major donors will have close to 1000 demands and conditions for giving away their money. Management is then faced with tough decisions, saying no to large donations due to demanding earmarked requirements which might make proper accounting difficult.

While both for-profits and non-profits have reasons for concern when the global economy, ever since the financial crisis, has been experiencing slower growth. The critical considerations for a successful adoption of The Carma Fund are to be found in Norway as a country. We have a multi party political coalition system to reduce extremism and facilitate political stability in the long run, long-term economic governance, proper life/work balance

and a generally high level of education in our population. Differences in salaries are low while healthcare and education remain a public service, ensuring strong equality across the various functions in our society. Additionally, Norway has one of the highest levels of real estate ownership in Europe which encourages responsible behavior with maintenance and long-term planning. Instead of saving excess income in a 401k-retirement plan with special tax advantages, Norwegians have a long-term plan of owning the house they live in. This induces a strong sense of wellbeing and comfort for the future, as financial innovations in our millennium allow for equity mortgages up to 70% of market value. Those over 60 qualify for what is called a senior loan with no interest and down payments up to 40% of market value.

Joel Shulman, professor of Entrepreneurship at Babson College, has made it easy for funds looking to invest in entrepreneurs (EntrepreneurShares.com). In his research, Shulman has sliced and diced through 33,000 companies in all major exchanges using 15 factors, categorizing entrepreneurs into either nano, micro, small, mid or large capitalization, and analyzing performance in comparison with Russell 3000. His studies suggest that entrepreneurs outperform non-entrepreneurs in most major categories and sectors (Shulman 2009). The Carma Fund should consider developing a strategic partnership with Joel Shulman to further improve the data science skills for its members, with the added benefit of developing greater insight into how a triple bottom line contributes to entrepreneurial success.

Software as a Service, Netflix, Mobile subscription, Spotify, Cable TV, Insurance and Antivirus all have in common recurring monthly payments which financially has an attractive value proposition. In economics, a nation with high turnover of capital indicates a trust in the long-term stability. A nation with a highly educated population will enable the positive feedback loop of stronger appreciation for innovative initiatives that benefit society, and are more likely to contribute proactively. Throughout history there has always been a “lender of last resorts”, as the economy go through cycles in various geographical locations. Jørgen Randers shares in his book “2052: A global forecast for the next forty years” (Randers 2012) that all established industrial economies are heading for an overshoot and collapse. While the Chinese have a few more decades, China’s debt as a share of GDP (282%) has surpassed that of the US and Germany (Dobbs et al. 2015) and they are not likely to bail out failing economies. The Chinese people are extremely productive; they are well organized with state capitalism and are too busy maintaining momentum to adopt a more sustainable approach to growth. What is in need of a bailout is our Planet Earth, as both global warming and water scarcity are predicted to grow dramatically in the coming decades. According to United

Nations, 1.8 billion people will be living in countries or regions with absolute water scarcity by 2025, and two-thirds of the world population could be under conditions of water stress (UN Water 2007). The World Resources Institute also finds an alarmingly high percentage of the world's population will experience water stress in the coming decades (Parish et al. 2012). Norway was awarded top placement shared with Germany in the category Water and Sanitation at the recent 2015 Social Progress Index, hinting towards a possible collaboration for these countries to join forces in addressing a growing humanitarian crisis. The timing could hardly be better as the oil price drop has freed up many employees with relevant skills that can be applied to Water and Sanitation globally. Norway has the biggest ownership stake in Nestlé through our Government Pension Fund Global which puts the Norwegian people in the strongest position to alter “business as usual” practices, for instance in California, where they have a special agreement with native Indians to tap groundwater without any requirements for declaring the amount drawn. California now has statewide restrictions on water usage for citizens, causing many to get upset about both fracking and Nestlé. A crowd-funding campaign in California can therefore finance a nationwide campaign in Norway. It would require the reinvestment of dividends from Nestlé in a share repurchase program on condition of pausing operations in California and building infrastructure globally to improve access to clean water in areas troubled with water scarcity. Momentum from a successful campaign can be leveraged to engage citizens from the US, Norway and Germany to get involved in data analysis, data science, simulations and development of plans for effectively address the water scarcity issue in collaboration with Nestlé and The Carma Fund.

Famiglietti wrote in a Nature publication titled: “The global groundwater crisis” that “very few major aquifers have been thoroughly explored in the manner of oil reservoirs. As a result, the absolute volume of groundwater residing beneath the land surface remains unknown” (Famiglietti 2014). As illustrated below, a recent study (Richey et al. 2015) notes that the dearth of groundwater is already leading to significant ecological damage, including depleted rivers, declining water quality and subsiding land. Famiglietti, Richey and their coauthors are in favor of a global campaign to directly measure the amount of water stored in the world's groundwater aquifers, which in many cases requires drilling to reach bedrock. “I believe we need to explore the world's aquifers as if they had the same value as oil reserves,” Famiglietti said in a press release. “We need to drill for water the same way that we drill for other resources.” Richey: “In a water-scarce society, we can no longer tolerate this level of uncertainty, especially since groundwater is disappearing so rapidly.” The challenge for The

Carma Fund is to organize a global effort, bringing onboard Norwegian resources no longer utilized due to reduced profitability in the oil industry.

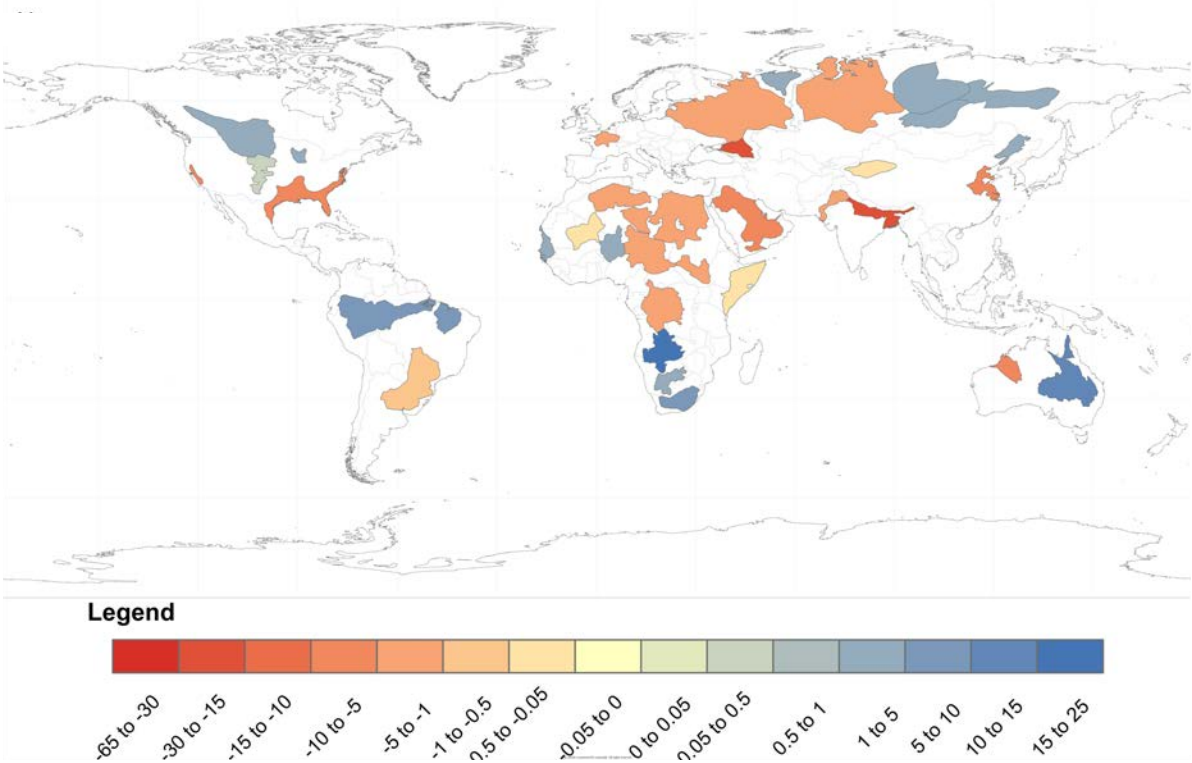


Figure 5.1: Trends in Groundwater Storage from NASA GRACE Mission (2003 - 2013)

In 2014 I started a project called [Water.Gift](#), which also has the Facebook page [Facebook.com/WaterPledge](#). Those who pledge to donate at least \$1 per month to improve access to clean water will be allowed to register volunteer hours at The Carma Fund as supplementary retirement savings and access online social entrepreneurship education to develop a better understanding of how to build a triple bottom line business. Members of The Carma Fund will receive support for building their own sustainable social venture, which will help eliminate the shadow costs of unemployment. Those who launch and operate a successful social venture also qualify to further eliminate shadow costs by being included in a number of insurances, including a pension fund. An organic farmer will for instance be able to insure crops against a bad harvest as confirmed by weather reports. Membership in The Carma Fund includes continuous education, so that members can, on an ongoing basis, adjust their organization to be aligned with market trends and price developments.

5.3 Concluding remarks and further research

While the current incarnation of pension funds are under pressure to meet future liabilities, a redefined pension fund built on the proven foundation of time banking and the promising future of data science, has the potential to bypass many of the legacy issues of current systems and offer an immediate beneficial experience. Social Entrepreneurs need support and mentorship to safely come through the initial Death Valley phase, so that Social Ventures can successfully develop with a triple bottom line. Positive externalities are generated for our society as The Carma Fund facilitates these relationships in an effective manner. The Carma Fund has the potential to establish itself as a trusted network through proper innovation management and gain adoption amongst Social Entrepreneurs. The Carma Fund structured as an eternal pension fund will through the adoption of advanced data science keep up with market innovations, so that Social Entrepreneurs can feel comfortable about their future retirement filled with excursions and meaningful activities. Considering the green profile of The Carma Fund, one project should focus on how the Norwegian Government Pension Fund Global can both improve risk-adjusted returns and maintain a sustainable portfolio. How traditional pension funds can improve their portfolio would be a suitable project for further research as a PhD in Finance. A critical success factor for The Carma Fund would be to engage data scientists for doing impact assessment on major social and environmental challenges. Hours spent on the data analysis platform would be tracked, in addition to the impact of projects that are contributed to. Mentors will also earn pension points by logging hours, combined with impact measurements of invested time. Once a critical mass of hours has been accumulated, these might trigger various benefits like being assigned a research assistant to help with data collection and data analysis. The ability to continuously connect aspiring data scientists with more experienced researchers in fruitful collaborative efforts can put The Carma Fund on the map for attracting talent. Unlike other funds, The Carma Fund takes the analysis of all data seriously. This puts The Carma Fund in a unique position to cross-analyze data irrespective of the origin being financial, social or environmental. Over time, this will evolve to become a powerful predictive platform that can determine appropriate course of action with efficient allocation of scarce resources. The cross-disciplinary approach will enable strong network effects as Social Entrepreneurs learn that The Carma Fund is the only portal they need for improving their triple bottom line.

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