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Article

Postasset Management: Robo-advisory, Longevity and Postmoney Life-Cycle Investment Objectives

Boyan Christov Ivantchev1*

¹University of World and National Economy, Department of Economics

Abstract

Rapid technological and scientific advancement is leading to an inevitable qualitative change in socioeconomic, political and psychological interactions for humanity. Here in this paper, I will discuss current developments of robo-advisers in the field of asset and wealth management and how ephemeralization of computational and scientific power is intercorrelated with the rise of the longevity sector and why it may lead to a new life-cycle investment objectives paradigm and plausible new financial instruments, asset classes, insurance policies and the transformation of money into postmoney. If we would be able to buy Biblically unbuyable products e.g., additional years of life, the value of money will be transformed into postmoney with not diminishing marginal utility and with not diminishing psychological value. Transformation of money (a current medium of exchange in the form of coins and banknotes) into postmoney (a money with not diminishing marginal utility and with not diminishing psychological value) I means that psychological value and purchasing power of postmoney perception/experience is qualitatively different, because of the scientific plausibility of buying additional years of life what makes postmoney the currency of life i.e., not anymore, a classical medium of exchange. That is to say postmoney is not fitting with the diminishing (logarithmic) nature of value function (VF) of the Prospect theory (PT).

Keywords

Postmoney, Longevity, Robo-advisory, Postasset Management

Introduction

The 20th century asset and wealth management model was based predominantly on quantitative research and past performance of the returns and volatility of asset classes. The past century novelties in the wealth management industry were connected with the usage of quantitative trading systems and algorithms. These trading systems were based on Nobel Prize winning algorithms (Markowitz, 1952, 1959; Fama, 1970, 1996; Fama & French, 1998; Elton et al., 2014). The newest trends in the industry are still using some of the fundamentals of the modern portfolio theory (MPT) and capital asset pricing model (CAPM). "An analysis of 219 international robo-advisors shows that Markowitz's portfolio theory is the most prevalent approach, although some systems do not disclose their techniques" (Bartram et al., 2020, p. 24). At the same time there is also a disruptive element (e.g. BlackRock, 2016; Beyer, 2017; Deloitte, 2019; OECD, 2021) already based on the usage of advanced algorithms and artificial intelligence (AI) in the process of active asset and wealth management. A comprehensive review of AI and machine learning application in the field of asset management is presented by the study of the CFA Institute Research Foundation which also gives a very useful review of a number of solid researches in that field (Bartram et al., 2020, pp. 45-89).

The plausibility of this transformation is confirmed by analyzing the results from a national representative sociological survey (panel study with sample size n=1,000) published in manuscript Postmoney theory: value function in the domain of postmoney $\frac{https://www.emerald.com/insight/content/doi/10.1108/FS-06-2018-0069/full/html}{https://www.emerald.com/insight/content/doi/10.1108/FS-06-2018-0069/full/html}$

^{*} Corresponding author.

Automated advisory systems

In recent years, many fintech companies and financial institutions have offered automated advisory systems or so called robo-advisors online, as well as offering easily accessible platforms for different investment services and types of investors. These robo-advisors are offering almost completely automated asset and wealth management advice, with minimal to absolutely no human involvement, and are not fully based on static systems, rules and analyses, which can easily be outdated by the market. Automated robo-advisory is available 24/7 and is not targeting predominantly high-net worth-individuals; the opening of an investment account does not require a minimum amount - like in the case of investment platforms like Betterment², SoFi³, Ellevest⁴, Fidelity.⁵ The rest of the platforms (Vanguard, Wealthfront) predominantly require a minimum of just 500 USD to 5,000 USD, which is nowadays affordable for millions of investors. To be more precise, we will define robo-advising and its features as follows: "...robo-advisors start by defining the investment strategy of each individual based on his/her investment goals and risk profile. Robo-advisors ask potential clients about the purpose of the investment and the time horizon. Robo-advisors offer investment strategies for a variety of goals, including retirement, saving for large expenditures, establishing a rainy-day fund, or generating a stream of income to cover expenses" (Abraham et al., 2019, p. 1). From the above-mentioned notion of robo-advisors, we can largely agree that the services offered are covering nearly entirely private asset and wealth management. Robo-advisors are quickly becoming mainstream disruptive financial technology preferable for users who are looking for low-cost financial advice and time-saving access to asset management services. "Robo-advice is an accessible and affordable option for "advice gap" customers, who realize a range of life events - property purchase, education and health care funding, prolonged retirement - demand some investment for the future." (Arwas & Soleil, 2016, p. 31). These automated platforms do not apply management fees on assets under management like in the case of Charles Schwab, SoFi, Axos Invest and many others, or they only have applicable fees at very low levels (0.25% to 0.35%) like in the case of Betterment, Wealthfront, Ameritrade, Vanguard. Or finally, the fees can be symbolical annual fees with flat levels of 120 USD - like in the case of Ellevest and Bloom. Hence, it will be correct, as per the current state of the financial industry, to suggest that robo-advisory is an emerging new megatrend in the asset and wealth management industry which will help to achieve mass customization what will be an important investment strategy next five years in the asset management industry (Accenture, 2021, pp. 3, 18). The research provided by The European Federation of Investors and Financial Services Users is stating that in 2019 clients of Robo-advisors are 45 million worldwide and is projected number of users to reach 147 million in 2023 (Better Finance, 2020, p. 16). Assets under management by robo-advisors for the year 2020 is nearly 1 trillion USD and is projected to increase with 26% annual growth rate and to reach 2.5 trillion USD in 2024. Presently, the US financial market is the leader with some 200 active roboadvisors. The estimated value of assets under the management of robo-advisors in US was 400 billion USD in 2018 and is forecasted to reach 1.5 trillion USD in 2023 (Abraham et al., 2019, p. 1). Recent research about the next generation asset management is coming with the conclusion that consumers who are blending technology and live sources of financial advice are reaching 50% tipping point and is becoming predominant customers behavior (Hearts & Wallets, 2020) and confirms that robo-advisory is a new megatrend in the asset and wealth management industry.

Constantly rising amounts of money under automated management naturally are urging further development and remastering of complex neural network-based stock price forecasting and trading systems. Some of the algorithmic trading systems and big data machine learning models claim that they can predict the new quality and major changes, emerging on the financial markets. As financial markets are dependent on multiple inputs (quant market data, technical indicators, macroeconomic data and behavioral analyses) the latest industry advances are integrating more behavioral finance ideas into the process of active asset management and the development of new tools and technologies for avoiding irrational decision making under risk and uncertainty. These models are targeting qualitative data processing and the developing of textual analysis-based trading models and systems (Tetlock et al., 2008; Kearney & Liu, 2014; Crone & Koeppel, 2014; Shynkevich et al., 2015; Heston & Sinha, 2017), trying to

² https://www.betterment.com/

³ https://www.sofi.com/

⁴ https://www.ellevest.com/

⁵ https://www.fidelity.com/

⁶ https://investor.vanguard.com/advice/digital-advisor

⁷ https://www.wealthfront.com/

measure market sentiments and market psychology. That is, to try to mitigate abnormal irrational reactions of investors caused by different types of over- and under-reaction on news announcements. Marketpsych's sentiment indicators as an example is measuring market psychology and finance-specific sentiment data derived from thousands of news and social media outlets. Thus, we may observe a sub-trend in the robo-advisory sector focused on behavioral immunization of emotions and cognitive biases attempting to reduce cognitive mistakes during the investment decision-making process (D'Acunto et al., 2018; Silva, 2019; Brenner, Meyll, 2020). This sub-trend is especially important for actively managed investment portfolios and their rebalancing over time, for solidifying rationality in decision making under risk and uncertainties. Insofar I do hypothesize that emerging megatrend of robo-advisory and scientific plausibility of buying additional years of life based on the theoretical principle of ephemeralization or "doing evermore with ever less" (Fuller, 1971, p. 9) is predisposed to replace, in next 10-15 years, traditional asset and wealth management services. So, the future of robo-advisory will be connected with AI management of a new asset classes (postassets) which will be scientifically personalized (AI monitored health status and investment objectives) to individuals' investment portfolio (Health-Wealth-Health) and correlated with the advancements of healthcare-longevity-AI sectors and the future life cycle investment objectives.

Postmoney Theory (PMT) - Longevity and Investment Process

The origin of money was defined by Glyn Davies in the following way: "Money originated very largely from non-economic causes: from tribute as well as from trade, from blood-money and bride-money as well as from barter, from ceremonial and religious rites as well as from commerce, from ostentatious ornamentation as well as from acting as the common drudge between economic men". (Davis, 2002, p. xvi). This definition shows that money has an origin, value and functions related to anthropology (Graeber, 2011), history, culture studies, morality and ethics, customs and laws, occultism and religion, wars, trust and debt - "It is trust inscribed... relationships between lender and borrower" (Ferguson, 2008, p. 31), social and economic development of the societies and states. It is also closely tied to the psyche and the psychology of individuals and nations. Hence, complexity of the money notion is beyond the standard economic paradigm, which defines money as a just simple medium of exchange, unit of account and store of value (Samuelson & Nordhaus, 2001; Taylor & Weerapana, 2009). Money cannot be perceived as a frozen phenomenon in time - even because of the way and rule of the production of money, which changes through the years and transforms monetary systems (Hulsmann, 2008, p. 3) and hence socioeconomic and psychological interactions within societies and financial markets.

Subjective reasons for the transformation of money into postmoney

The transition from physical to fiat money i.e., the disembodiment and dematerialization, digitalization, and virtualization of money and financial assets, and transition of money from means to an aim per se, objectifies the notion and idea of postmoney (Ivantchev, 2015, pp. 141-142). The magic of the transition of money from a simple tool and means into aim per se, and thus becoming postmoney, is also traceable in the work of Serge Moscovici who is stating: "... but what is this mystery? It was money that led the way and has succeeded best in it, for money's entire significance does not lie in itself but rather in its transformation into other values. Now this evolution is contrary to reason and almost smacks of a modern miracle. In fact, how is it possible that a means has been elevated to the dignity of becoming an ultimate goal. In this resides the magic of money and its authority over all the rest." (Moskovici, 1993, p. 289). Postmoney and PMT understanding requires distinction of a priori psychological experiencing of the money, which is derived from Kantian reasoning: "Thus, the actual contains nothing more than the merely possible. A hundred actual dollars do not contain the least bit more than a hundred possible ones" and a posteriori psychological experiencing of the money: "But in my financial condition there is more with a hundred actual dollars than with the mere concept of them (i.e., their possibility). Thus whatever and however much our concept of an object may contain, we have to go out beyond it in order to provide it with existence" (Kant, 1998, pp. 567-568). The subjective reasons for the transformation of money into Postmoney "... are related to the human difficulty to rationalize and differentiate categories of utility/value. Therefore, to ease the cognitive engagement in

⁸ <u>https://www.marketpsych.com/</u> - 23.10.2020

making their choices, preferences and understanding of utility and value, humans escape to mental shortcuts (heuristics). That is the leading subjective route from money to Postmoney – intercorrelated with temporality of being. Making major heuristics in rationalizing the being leads to primitivization and technologization of life, loading the category of money with soul and thus transforming it into an aim per se, i.e., Postmoney. Humans' monotheistic9 belief bias helps money transform into Postmoney - the only path to all possible, achievable and nonachievable, utilities and values" (Ivantchev, 2018). Insofar, if we perceive money (largely) as a commodity and means of exchange, additional unit of a money (commodity) will be with lower subjective utility for the consumer. Marginality of the additional units depends on the reference point of the commodities (money) possessed or consumed (exchanged) by us and VF describes diminishing psychological value of money (that is to say a posteriori experiencing) as a means of exchange to buy additional units of something. Therefore, if we would be able to buy unbuyable products e.g., years of life (time), the value of money and its purchasing power will be transformed into postmoney with not diminishing marginal utility and with not diminishing psychological value (Ivantchev, 2021). So, to clarify – changing the power of money "Like other kinds of power, purchasing power varies in scope, weight, and domain" (Baldwin, 1971, p. 584) i.e., changing the purchasing power of money (possibility to buy additional years of life) is causing transformation of money into postmoney. Therefore, the emerging megatrend of Roboadvisory, we discussed so far, is additionally supported by the transformation of money into postmoney and proposed by Ivantchev PMT which is correlated with life extension possibilities (Ivantchev, 2018).

Qualitative changes in longevity industry and investment process

Available scientific data and academic research do support the trend of rising longevity on earth (Kontis et al., 2017) and are stating that "Medical knowledge will double every 73 days by 2020 vs. every 3.5 (years) in 2010, and genomic sequencing costs have fallen 99.999 per cent since 2003. This has enabled a new frontier in precision medicine to further extend life expectancy, heralding a 'technanity' [technology meets humanity] revolution." (Julius Baer - Future Health, 2020, p. 36). Even more stunning scientific views are available nowadays: "Professor Sarah Harper of Oxford University recently said that a baby born today would be looking at an expected lifespan of 104 years." (Ibidem, p. 36), which will make the longevity sector become a USD 610 billion industry by 2025 according to the Bank of America (Ibidem, p. 36) or even up to multi trillions of US dollars in other estimates ¹⁰. Thus, PMT, is adopting existing scientific achievements in the longevity and healthcare industries and is expecting exponential scientific growth and a cost cutting effect of AI application in new medicine and medical development. The compounded result of these factors may elevate humankind to unexpected achievements (e.g., Vaupel, 2010; Lan et al., 2019; Crimmins, 2020) in the longevity sector. Hence, PMT inevitably asserts that we already living in an environment where the thought of buying additional years of life and extending the human lifespan up to 100 years and even more is plausible. So, to clarify - PMT argues that we are already at the edge of qualitative change of money into postmoney.

Evolving qualitative changes in individual perception of money as postmoney are confirmed by a national representative survey (Postmoney survey), based on a random sample (n = 1 000) of face-to-face interviews with adult Bulgarian citizens in 92 localities and 125 different cells¹¹. The survey is conducted by the leading Bulgarian sociological agency Exacta Research Group¹², during the period of 5-12 July 2017. The margin of error for the entire sample is ±3. Postmoney survey is delivering statistically significant results for a changed perception in the population of Bulgaria for the value and notion of money, as well as its transformation into postmoney. On the first question of the survey "Let's assume, that next 15 years the science will guarantee, that it will be possible to buy 30 years of life more (for You/Your children). In that case, shall the money be more valuable to You?", 35% of the respondents are confident that money will be more valuable. The large percentage of respondents which answered

⁹ Monotheism widely is understood as the belief in one Big God. I am using monotheism in a different way - as the belief that there is only one proper way to perceive and practice religiosity and beliefs in one Big God or in many different Gods. So, from that I am deriving that the money and postmoney (after its emergence) is perceived/experienced monotheistically.
¹⁰ http://analytics.dkv.global/data/pdf/Financial-Industry/Full-Report.pdf

¹¹ Model of the sample is based on three level cells with probabilities, proportional to the size of the municipalities. Survey sampling is based on the modified cartographic model of the Leslie Kish: selection of the municipality among all the 265 municipalities in Bulgaria; selection of the cells in the localities; random selection of the household addresses, where the respondents are selected. The selection process of the adult respondents inside of the households is made as per the modified Leslie Kish method.

¹² http://exacta.bg/?lang=en last visited on 23.10.2020

with "I don't know" (24,1%). This may be interpreted as a normal outcome given that it is relatively early for a sizeable part of Bulgarian society to envisage and comprehend the upcoming scientific advancements. Therefore, there is a non-negligible likelihood that these "undecided" respondents would join the first group in the future. All respondents who answered "Yes" on the first question have entered the second question of the survey "How much more valuable will money be?", the prevailing share of the respondents (40.8%) are confident that "Money will be so much more valuable, that it will be more than money". This cross-correlates with the respondents selecting the statement "Money will be twice as much more valuable" (25.9%). This is because the meaning of "twice as much" in Bulgarian national psychology means a lot more than twice as much. The analysis of the collected data was made by using MATLAB and scaling the power of each question from the second question of the survey (without the answers "I don't know/I cannot answer") and plotting a function with best fit. The value of R² is examined for the linear, stochastic, and logarithmic functions. However, the value of R² for all the functions is high and above 0.9 (Linear = 0.989; Exponential = 0.965; Logarithmic = 0.913) the best fit is for the linear shape of the curve (Ivantchev, 2018). Yet, we can observe that the best fit derived from the postmoney survey for the psychological value and experiencing of the postmoney is the linear function and differs from the logarithmic model of the PT value function (Kahneman and Tversky, 1979).

So, we do argue that in the realm of plausibility of buying additional years of life and extendibility of the human lifespan new psychological experiencing of the money as a postmoney exists and its psychological value is not diminishing and is not a logarithmic function—like in the case of old money notion and PT understanding. These findings demonstrate that the VF, proposed by the founding fathers of behavioral economics Tversky and Kahneman and its psychological value model for the money is no longer valid because of the changed nature of money into postmoney. And now I am transforming Daniel Kahneman's assertion that "Time is currency of life" into existence of scientific plausibility of buying additional years of life i.e., postmoney buyability of life (time) makes postmoney the currency of life. Thus, the psychological value of postmoney perception/experience is qualitatively different and not anymore in fitting with the diminishing nature of VF of the PT. The nature of the above-mentioned findings, complex processes and trends are influencing and inevitably changing the investment process and its targets—risk profiling of the clients, investment time horizon, asset classes, portfolio allocation, returns and the whole paradigm of the wealth management.

Postmoney - Future Life Cycle Investment Objectives and Postassets

A couple of decades ago we had just two major classes of assets - stocks and bonds. Despite rapid technological and scientific changes, we still have to choose between - stocks, <u>fixed incomes</u>, cash, real estates, precious metals, index and exchange-traded funds or alternative investments like paintings, race horses, commodities, coins and postage stamps. As a direct result of digital transformation of our life, the only new opportunity on the financial markets is connected with cryptocurrencies. These currencies are pear-to-pear electronic cash systems for online payments avoiding centralized payment systems like SWIFT. These assets are not centrally coined or produced and managed and are primordially nonmaterial. Their value and price are not tangible or fiat based but lie on the algorithm security which guarantees the execution, traceability and authentication of transactions and possession of cryptocurrencies. The lack of other new investment classes, despite scientific and technological advancement, is explainable through the lack of major changes in the Life Cycle Investment Objectives and life-cycle model based on a standard economic theory (Modigliani & Brumberg, 1954; Friedman, 1957) and old money notion buying ability perception and experience.

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¹³ Daniel Kahneman: Thinking Fast and Slow, Deep Learning, and AI | Lex Fridman Podcast #65: https://www.youtube.com/watch?v=UwwBG-Mbni7

Money based life-cycle investment objectives

From the beginning of the 20th century until the beginning of the 21st century, the paradigm of the investment process remains unchanged and still mostly based on these outdated objectives:

Investment Objectives	Rapid Growth	Stable Growth	Safety	Safety and Income
Investors Age	Early Stage Less than 35Y	Middle Stage 35-55Y	Peak Stage 55-65Y	Retirement Stage 65Y+
Investment Strategy	Aggressive	Aggressive/Balanced	Conservative	Very Conservative

Table 1: Money based life-cycle investment objectives

In the context of life-cycle, humans' investment objectives still remain the same. Mainly because of the unchanged horizon of life expectancy, an average prevailing retirement age and limitations of diminishing marginal utility and diminishing psychological value of money for humans. So, I can suggest five pillars representing the current state of the asset management paradigm in the domain of diminishing psychological value of money:

- 5. Past performance of the market returns and volatility are starting points for expected future returns;
- 6. Expected future returns are strongly correlated with the risk of the assets the higher the risk, the higher the returns;
- 7. Asset and wealth managers are predominantly institutional banking and nonbanking financial institutions and in the case of the ultra-rich people tailor maid/family wealth managers;
- 8. Investment tools and technologies, investment horizon and risk, asset classes and portfolio allocation are mirroring the Life-Cycle Investment Objectives, and the assumption of global average life expectancy at birth of 73 years (WHO, 2022) and average age of retirement of 65-68 years;
- 9. Limitations of the utility of the money and not understanding the postmoney notion and PMT and the emerging new psychological utility and experience of postmoney;

Postmoney based life-cycle investment objectives

The existing scientific development of the longevity sector will rise exponentially based on the principle of ephemeralization "Ephemeralization, the comprehensive effects of more-with-lessing, will bring about an ever higher standard of living for all humanity" (Fuller, 1971, p. 117) and hence validate and revalidate PMT, as well as the transformation of the psychological value of money into postmoney and changing the utility of money into currency of life. Naturally and inevitably, financial markets and investment processes will need new asset classes i.e., post-assets and a wealth management approach. Future changes in the notion of longevity, average life expectancy and average age of retirement will also require changes of the investment process. Retirement and management of our savings and wealth will be qualitatively (objectively and psychologically) different from the current state of the wealth management industry. Living in the domain of postmoney i.e., in the domain of the perception of the intrinsic value and "soul" of money into postmoney will correspond with and lead to qualitatively new wealth management paradigm. That will be a result of rising longevity and wide expectations for the ability to scientifically prolong human life. This is the reason to believe that the qualitative transformation of money into postmoney and the increased psychological value of postmoney should be accompanied with appropriate new investment asset classes - postassets. Hence an increased psychological value and new real utility of money (possibility to buy additional years of life) will change the preference (desire) of the individual asset and wealth management targets and types/classes of investment instruments. Money is not going to be anymore just a tool with three functions - medium of exchange, store of value and unit of account. Money will become postmoney i.e., an aim per se in the domain of a booming longevity sector and technically and scientifically ready for buying more years (time) of life, what actually will change the consumption preferences (desire) of individuals. Qualitative changes of money into postmoney will require new Life Cycle Investment Objectives and, relevant to these objectives' investment, post-asset classes and types of life insurance. New Life Cycle Investment Objectives and

new investment paradigm will be dramatically changed – mainly because of AI employment and robo-advisers, higher longevity and the possibility of postmoney to buy more years of life (time):

Investment Objectives	No Growth Sensitivity	Longer Live Growth	Postmoney Growth	Posthuman Growth
Investors Age	Less Than 45Y	45-75Y	75-95Y	95Y+
Investment Strategy	Abundance Joy Alternative Investments	Creativity	Stable Morality	Testamenting and Value Crisis

Table 2: Postmoney based life-cycle investment objectives

Yet, I can suggest the future five pillars of the postmoney Life-Cycle Investment Objectives and future state of the post-asset management paradigm in the domain of rising psychological value of postmoney:

- 1. Past performance of the market returns and volatility will no longer be the basis for future returns. Expected returns are correlated with the future rise/decrease of life expectancy. Leading indicators (longevity indicators) will play a primary role instead of lagging indicators;
- Traditional asset and wealth managers will disappear. AI and robo-advisors will dominate trading and postasset management;
- 3. Material abundance will diminish the need of many asset classes to just post-assets i.e., life and longevity financial instruments. The distribution and trading of post-asset classes will be direct with no fees;
- 4. Commercial and investment banks might be replaced by longevity holding companies, which are decoupled from the central banks' financial system;
- The investment horizon will be longer and not always connected with value growth and retirement age. It will be linked to desired age of disengagement from physical life and joining virtual life and human wisdom.

With the expected new investment objectives, we might expect also the emergence of new asset classes – post-assets. We will hypothesize here that current plain vanilla life insurance policy will be replaced by a new class of insurance policy:

- 1. Buy-and-Forget Life Insurance Policy (BFLIP). This policy will guarantee a longer life i.e., the number of years above average life expectancy, based on the latest scientific achievements in longevity and AI actuarial estimates. The issuer of BFLIP will guarantee to the insured person years in good health and self-sufficiency culturologically adjusted to the future lifestyle on earth.
- Another postasset class we can suggest is Life Stocks (LIFS) issued by a company involved in healthcarelongevity-AI sectors. LIFS will be a core tech equity on the capital markets and underlying postassets for options and futures trading.
- 3. We might have also a postasset class of a fixed income financial instrument Life Increasing Protected Securities (LIPS). These are life-expectancy-indexed-bonds with a maturity of 15 years, 30 years, or 50 years. The issuance of the bonds, maturity and coupons will be regulated by the Government Treasury Offices through a Central Life Authority Agency. The coupons-of-the-LIPS will be: Fixed but generating a different amount of interest when multiplied by the adjusted principal to the change of Life Expectancy Index (LEI), hence protecting the holder against the LEI index rise; Floating with a minimal rate until the maturity plus an additional rate based on the average LEI rise/decrease for the past 1 year. Liquidity will be regulated by the same agency through open-market operations. The principal of the bonds will be adjusted to the LEI, published by LEI Rating Agency. When the LEI rises, the principal of the bonds will adjust upwards and vice versa, so that it will protect the savings and wealth of investors against the LEI rise and will be open for losses in case of a decrease.

Conclusion

Specifically designed and conducted for the purpose of PMT, Postmoney survey gives a base to believe that the psychological perception and experience of an intrinsic value and purchasing power of postmoney changes the shape of a VF - from logarithmic to linear or even stochastic. This will be valid in the domain of the plausible and successful developments of life extension sciences. Further, this validates that increasing of a postmoney quantity will lead to a qualitative transformation and psychological increase of postmoney sensitivity and the changing of the curvature of VF. Simultaneously I am expecting that in the domain of postmoney, IoT and AI, robo-advisory services will reconfirm its megatrend rise transforming the current state of asset and wealth management to the future Life-Cycle Investment Objectives and postassets. At the same time, we have to consider that future mass AI employment and complex semi and fully autonomic management models in the financial industry, may cause a cognitive disengagement of human beings from the postmoney management reasoning. A possible disengagement of humans from the investment process may accelerate the decline of homo economicus IQ and may accelerate cognitive decline. The shift from complex financial decision making into a "buy off the supermarket shelf" model and customization for the masses, will make human beings a simple consumer of readymade products and slow learners with declining cognitive and metacognitive abilities. Hence demystification and simplification of asset management and the possible march of postassets can make us less able to be homo economicus. Or as it was predicted in year 2000 by Richard Thaler "I predict that economic models of learning will become more sophisticated by making their agents less sophisticated" (Thaler, 2000, p. 136). Ephemeralization and exponentiality of AI and longevity sciences predispose and do require New Life-Cycle Investment Objectives and new investment paradigm. Thus, plausibility of buying additional years of life (time) and postmoney existence/experience will require from the market a supply of new and relevant assets i.e. postassets. This again will inevitably boost future trends of the postmoney/postassets era and may qualitatively change the whole financial industry. Yet, on top of this, humankind may face a values problem: how to maintain postmoney prolongable life and preserving religious morality, and ethical values of the Holy Bible as a heritage to the first new generations after postmoney era i.e., how buyability of life will be in consent with "May your money perish with you, because you thought you could buy the gift of God with money!" (Acts 8: 20)14. Further development of the here-enclosed reasoning will continue on the international level of surveying psychological sensitivity to the existence/experience of postmoney.

References

- Abraham, F., Schmukler S.L., Tessada J. (2019). Robo-Advisors: Investing Through Machines. World Bank Policy Research Working Paper, (134881).
- Accenture. (2021). The Future of Asset Management. Business models and strategies for 2025.
 - https://www.accenture.com/_acnmedia/PDF-154/Accenture-Future-of-Asset-
 - Management.pdf#zoom=40
- Arwas, A., & Soleil, K. (2016). Robo-Advice 2.0: The Next Generation, Journal of Financial Transformation, Capco Institute, 43, 30-36.
- Baldwin, D.A. (1971). Money and Power. The Journal of Politics, 33(3), 578–614. https://doi.org/10.2307/2128274
- Bartram, S.M., Branke J., and Motahari M. (2020). Artificial Intelligence in Asset Management. CFA Institute Research Foundation. August.
- Better Finance, (2020). Robo-Advice 5.0: Can Customers Trust Robots? A Research Report by Better Finance, December.
- Beyer, C. (2017). Evolution and Disruption in the Wealth Management Industry. The Journal of Wealth Management, 19 (4), 8-13.
- BlackRock. (2016). Digital Investment Advice: Robo Advisors Come of Age. September. https://www.blackrock.com/corporate/literature/whitepaper/viewpoint-digital-investment-advice-

¹⁴ Holy Bible, New International Version

- september-2016.pdf
- Brenner, L., Meyll, T. (2020). Robo-advisors: A substitute for human financial advice? Journal of Behavioral and Experimental Finance, 25, March.
- Crimmins, E.M. (2020). Social hallmarks of aging: Suggestions for geroscience research, Ageing Research Reviews, 63, 101136.
- Crone, S.F. and Koeppel C. (2014). Predicting exchange rates with sentiment indicators: An empirical evaluation using text mining and multilayer perceptions. IEEE Conference on Computational Intelligence for Financial Engineering & Economics (CIFEr), 114-121.
- Davies, G. (2002). A History of Money from Ancient Times to the Present Day. University of Wales Press.
- D'Acunto, F., Prabhala N., and Rossi, A. (2018). The Promises and Pitfalls of Robo-Advising. CESifo Working Paper 6907, CESifo Group Munich.
- Deloitte. (2019). Artificial intelligence: The next frontier for investment management firms. file:///C:/Users/Boyan%20Ivantchev/Downloads/fsi-artificial-intelligence-investment-mgmt.pdf
- Elton, E.J., Gruber, M.J., Brown, S.J. and Goetzmann, W.H. (2014). Modern Portfolio Theory and Investment Analysis. John Wiley & Sons, Hoboken, NJ.
- Fama, E. (1970). Efficient Capital Markets: A Review of Theory and Empirical Work, Journal of Finance, 25:2, 383–417.
- Fama, E. (1996). Multifactor Portfolio Efficiency and Multifactor Asset Pricing. Journal of Financial and Quantitative Analysis, 31(4), 441–65.
- Fama, E., and French, K. (1998). Value Versus Growth: The International Evidence. Journal of Finance, 53:6, 1975–999.
- Friedman, M.A. (1957). Theory of Consumption Function. Princeton University Press.
- Ferguson, N. (2008). The Ascent of Money: A Financial History of the World. The Penguin Press.
- Fuller, R.B. (1971). Integrative Resource Utilization Planning Tool, World Game, Document 1. Southern Illinois University.
- Graeber, D. (2011). Debt: the first 5,000 years. Melville House Publishing.
- Hearts&Wallets (2020). New Needs & New Entrants: Strategic Moves for Next Generation Innovation in Robos & Advice, September report.
- Heston, S.L., & Sinha, N.R. (2018). News vs. Sentiment: Predicting Stock Returns from News Stories. Financial Analysts Journal, Published online: 26 Dec, 67-83.
- Hulsmann, J.G. (2008). The Ethics of Money Production. Ludwig von Mises Institute.
- Ivantchev, B. (2015). It's not Money until it's Postmoney, The Future of Business: Critical Insights into a Rapidly Changing World from 60 Future Thinkers, in Talwar, R. (Ed.), FutureScapes, 139-146.
- Ivantchev, B.C. (2018). Postmoney theory: value function in the domain of postmoney. Foresight, 20 (5), 554-570. doi 10.1108/FS-06-2018-0069,
- Ivantchev, B. (2021). Postmoney phenomena: critics of diminishing marginal utility and value function. Public Policy.bg, 12(1), 22-31.
- Kahneman, D., Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. Econometrica, 47 (2), 277-280.
- Kahneman, D: Thinking Fast and Slow, Deep Learning, and AI. Lex Fridman Podcast #65: https://www.youtube.com/watch?v=UwwBG-MbniY
- Kant, I. (1998). Critique of Pure Reason. Cambridge University Press.
- Kearney, C., and Liu, S. (2014). Textual Sentiment in Finance: A Survey of Methods and Models. International Review of Financial Analysis, 33, 171–185.
- Kontis, V., Bennett J.E., Mathers, C.D., Li, G., Foreman, K., Ezzati, M. (2017). Future life expectancy in 35 industrialised countries: projections with a Bayesian model ensemble, Lancet, 389, 1323–35.
- Lan, J., Rollins, J.A., Zang. X., Wu, D., Zou, L., Wang, Z., Ye, C., Wu, Z., Kapahi, P., Rogers, A.N., Chen, D. (2019). Translational Regulation of Non-autonomous Mitochondrial Stress Response Promotes Longevity.

- Cell Rep. 2019 Jul 23, 28(4), 1050-1062, 0.1016/j.celrep.2019.06.078. PMID: 31340143; PMCID: PMC6684276.
- Markowitz, H. (1952). Portfolio Selection, The Journal of Finance, 7(1), 77-91.
- Markowitz, H. (1959). Portfolio Selection: Efficient Diversification of Investments. Cowles Foundation Monograph No. 16. New York: John Wiley & Sons, Inc.
- Modigiliani, F., and Brumberg, R. (1954) Utility analysis and the consumption function: aninterpretation of cross section data. In Kurihara, K.K. (Ed.), Post Keynesian Economics (pp.388-436). New Brunswick, NJ: Rutgers University Press.
- Moskovici, S. (1993). The Invention of Society: Psychological Explanations for Social Phenomena. Polity Press.
- OECD. (2021). Artificial Intelligence, Machine Learning and Big Data in Finance: Opportunities, Challenges, and Implications for Policy Makers. https://www.oecd.org/finance/artificial-intelligence-machine-learningbig-data-in-finance.htm.
- Rookwood, E., (Ed.). (2020). Future Health. Julius Baer Group Ltd.
- Samuelson, A.P., and Nordhaus, D.W. (2001). Economics. The McGraw-Hill Companies, UK.
- Shynkevich, Y., McGinnity, T.M., Coleman, S.A., and Belatreche, A. (2015). Predicting Stock Price Movements Based on Different Categories of News Articles. In Computational Intelligence, 2015 IEEE Symposium Series, 703–710.
- Silva, P.M. (2019). Robo-advising: unfolding the risks. In 3rd International Conference on Computational Finance ICCF2019.
- Taylor, J. B., and Weerapana, A. (2009). Principles of Macroeconomics: Global Financial Crisis Edition. South-Western Cengage Learning, 245-246.
- Tetlock, P.C., Saar-Tsechansky, M., and Macskassy, S. (2008). More Than Words: Quantifying Language to Measure Firms' Fundamentals. The Journal of Finance, LXIII (3), 1437-1467.
- Thaler, R.H. (2000). From Homo Economicus to Homo Sapiens. Journal of Economic Perspectives, 14 (1), 133-141.
- Vaupel, J. (2010). Biodemography of human ageing. Nature 464, 536-542. https://doi.org/10.1038/nature08984
- World Health Organisation. (2022). Life expectancy at birth (years) for both sexes, The Global Health Observatory. https://www.who.int/data/gho/data/indicators/indicator-details/GHO/life-expectancy-at-birth-(years)