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### **“THE RISE OF KNOWLEDGE AND HUMAN CAPABILITY TO CONFRONT THE CHALLENGES OF MODERN SOCIETY”**

In this paper I am going to consider some of the moments where knowledge has facilitated progress and social development throughout human civilization. In order to survive, human beings need complex adaptive system that can come only through knowledge of the habitat and the people around. Obviously this is a huge task to embark on in the scope of limited time and space of this volume, therefore there are bound to be some gaps in my observations of how knowledge has shaped societies and how it continues to enhance human civilizations across time and space. Although this volume does not intend to give the role of knowledge a scientific precision, all efforts will only concentrate on a few things that are of interest to me; chiefly human resilience and capability to surmount the challenges of modern society i.e. raging inequality; intense poverty; pervasive injustice; forced migration and resettlement; and worse of all, irreversible environmental degradation.

Against this backdrop, the article features the knowledge of eminent scholars on the theme: Doorman, 2015; Dave & Kobayashi, 2018; Giddens, 2014; Gupta, Orlovskiy, 2017; Schulz, 2017; The Economist, 2018; Bank of England, 2014; ICG, 2017. Including Tim Kohler, 2016, lead author and Regents professor of archaeology and evolutionary anthropology at WSU, who noted that The United States currently has one of the highest levels of inequality in the history of the world. In this same context the article draws on the largest and most comprehensive study of its kind that gathered data from 63 archaeological sites or groups of sites, comparing house sizes within each site to illustrate common measures of inequality. The researchers saw disparities in wealth mount with the rise of agriculture, specifically the domestication of plants and large animals, and increased social organization. The findings have profound implications for contemporary society, as inequality repeatedly leads to social disruption, even collapse.

**Key words:** knowledge, societies, human, time, space, inequality, Gini, Eurasia.

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#### **Ғылымның дамуы мен адамның қоғамдағы қиындықтарды еңсеру мүмкіндігі**

Оған тек қоршаған орта мен адамдарды танып білу арқылы ғана қол жеткізе аламыз. Адамға күнделікті өмірде күн көре білуі үшін интеграцияланған адаптивті жүйе қажет. Бұл мақалада бүкіл адамзат өркениеті тарихында білімнің қоғамның дамуына қосқан үлесі жайындағы деректерді қарастырмақпын. Мақаланың көлемі ғылыми дәлдікті айқындамаса да, салынған бар күш-жігерім бірнеше тақырыпты кеңінен ашады. Негізінен, адам, оның тұрақтылығы мен заманауи қоғамдағы теңсіздік; қарқынды кедейлік; кең таралған әділетсіздік; мәжбүрлі көші-қон және қоныс аудару; және ең салмақтысы, қоршаған ортаның қалпына келмейтін ресурстарының бұзылуы сияқты түйткілдердің шешіміне тереңірек тоқталдым.

Осыған байланысты мақалада белгілі ғалымдардың білімі берілген: Doorman, 2015; Dave & Kobayashi, 2018; Гидденс, 2014; Гупта, Орловский, 2017; Шульц, 2017; The Economist, 2018; Англия Банкі, 2014; МКГ, 2017. Соның ішінде, WSU-дің археология және эволюциялық антропологияның жетекші авторы және регент-профессоры Тим Колер, 2016, ол қазіргі уақытта Құрама Штаттарда әлемдік тарихтағы теңсіздіктің ең жоғары деңгейінің бірі екендігін атап өтті. Осы тұрғыда мақала теңдестірудің жалпы көрсеткіштерін көрсету үшін әрбір жерде үйдің өлшемін салыстыра отырып, 63 археологиялық орындардан немесе орындар топтарынан деректерді

жинайтын ең үлкен және жан-жақты зерттеуге негізделген. Зерттеушілер ауыл шаруашылығының өсуімен, әсіресе өсімдіктер мен ірі жануарлардың игерілуімен және әлеуметтік ұйымдардың өсуімен байлықтың айырмашылығы арта түскенін көрді. Олардың қорытындылары заманауи қоғамға терең әсер етеді, өйткені теңсіздік жиі әлеуметтік төңкерістерге, тіпті құлдырауға алып келеді.

**Түйін сөздер:** білім, қоғам, адам, уақыт, ғарыш, теңсіздік, Gini, Еуразия.

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### **Рост знания и человеческая возможность преодолеть проблемы современного общества**

В этой статье делается анализ динамики прогресса и социального развития человеческой цивилизации. Для того чтобы выжить, люди нуждаются в комплексной адаптивной системе, что может прийти только через знание мест обитания и людей вокруг. Настоящая статья сфокусирована главным образом на анализе устойчивости человека и способности преодолевать проблемы современного общества, среди которых неравенство, интенсивная бедность, распространяющаяся несправедливость, вынужденная миграция и переселение, а также необратимое ухудшение окружающей среды.

На этом фоне в статье представлены знания выдающихся ученых по теме: Doorman, 2015; Dave & Kobayashi, 2018; Гидденс, 2014; Гупта, Орловский, 2017; Шульц, 2017; The Economist, 2018; Банк Англии, 2014; ICG, 2017. В том числе Тим Колера, 2016, профессора-регента археологии и эволюционной антропологии в WSU, который отметил, что в настоящее время в Соединенных Штатах существует один из самых высоких уровней неравенства в мировой истории. В этом же контексте статья опирается на самое большое и всестороннее исследование такого рода, в котором собраны данные из 63 археологических памятников или групп мест, сравнивая размеры домов в каждом месте, чтобы проиллюстрировать общие показатели неравенства. Исследователи увидели, что различия в богатстве увеличиваются с ростом сельского хозяйства, особенно с одомашниванием растений и крупных животных, и усилением социальной организации. Их выводы имеют глубокие последствия для современного общества, поскольку неравенство часто приводит к социальным потрясениям, даже к краху.

**Ключевые слова:** знания, общества, человек, время, пространство, неравенство, Джини, Евразия.

### **Introduction**

This insight will only produce a brief prospectus of the evolution of knowledge, both implicit and explicit, in human society from the beginnings of the moments when the man moved out of the caves in a small, hunting and gathering oral cultures to adapt his natural environment by using the materials in his natural habitat to construct homes, produce food and other material things independently, through to the modern day of the internet which has successfully connected everybody, the artificial intelligence which continues to extend human knowledge beyond time and space, the big data which is the driving force behind the fourth industrial revolution with the most disruptive and transformative effects now sweeping across human societies today. This volume will discuss inter alia, the tacit knowledge for confronting the pressing problems of modern civilization, and close with an appraisal of knowledge of the neighbors in adapting and averting political

conflicts and senseless wars. We are learning that technology is also creating wealth disparity effect leading to pervasive inequality throughout the modern societies including the advanced economies. This phenomenon has drawn the attention of scholars from different fields Doorman, 2015; Dave & Kobayashi, 2018; Giddens, 2014; Gupta, Orlovskiy, 2017; Kohler, 2016; Schulz, 2017; The Economist, 2018; Bank of England, 2014; ICG, 2017.

### **Methods**

Within the scope of this article, there is a close study of the roles of knowledge in advancing human civilization, the article attempts to substantiate the significant role of knowledge in enhancing human creativity and progress. However, technology and particularly institutional economy have both failed to achieve the goals they are designed to achieve, leaving a gap for knowledge to bridge. Drawing on extensive studies conducted over the years by a group of researchers from Washington State University

and other universities, we are able to establish the asymmetries that began with larger scale agricultural societies with a media Gini of .35. This has also set the impetus for rising inequality that prevails today. As wealth increases so does inequality.

A comprehensive analysis of the knowledge of money is brought to the fore by experimenting with alternative ways of knowing in developing new ways of thinking that can

help shape the future of humanity. In this article attempts are made to highlight the many misconceptions about money and our monetary system all of which only amounts to a gross distortion of our knowledge of money.

In the closing chapter the article describes how Kazakhstan has fared both in its domestic and international relationships using the knowledge of its immediate environment. Statistical data from multiple sources: survey and documentary data was collected on the ethnic composition of Kazakhstan diversified population

Human civilizations have come a long way ever since the earlier man came out of the cave to use the knowledge of the earth he is standing on to erect a shelter. Much has been achieved since societies discovered that the knowledge of reading and writing is capable of helping them to transcend time and space. How knowledgeable we are can be measured in the light of the society we live in. I want to argue that knowledge and the environment depend on each other and cannot exist independent of one another.

From this standpoint, it is safe to say that knowledge is not just the product of the environments in which human societies exist; it is constitutive of forms of social organization. In my view, the history of the evolution of human society can helpfully be analyzed in terms of one main factor – knowledge acquisition.

The prominent anthropologist, Claude Lévi-Strauss was writing about the changes in the human communities when the long enduring hunting and gathering societies settled agricultural communities, and thus, they gave way to larger civilizations. All civilizations seem to presuppose the discovery of the knowledge of writing and presumably reading. Once a society has writing and notational system, it then becomes possible and easier to create knowledge, to create the idea of history and time as starting from one point and going somewhere, as opposed to simply being repetitive. (Giddens, Sutton, 2013). In a certain sense, we can say that this in itself is yet another discovery of knowledge – the knowledge of the past, present and future.

What then does writing do? It probably first appeared as a form of storage device rather than just a narrative form which it later became. To be sure, the Sumerian farmers, armed with writing and records dating back to 3000 BC, were able to grow an abundance of grain and other crops, the surplus of which enabled them to settle in one place, build perhaps the world first largest city. (Ascalone, Enrico 2007), (The Sumerians, 2002).

And when people are equipped with such a storage device, they are able to store wheat over a longest period particularly if you have the records of where it is and how much you got in there. That again in itself generates a new form of knowledge.

It is safe to say then that human community has always depended upon a diversity of talents and knowledge and not a singular conception of ability, and the heart of this challenge has been to constitute our sense of ability and intelligent knowledge. Not least, for the power of imagination leads to our creativity. Humanity must continue stimulating imagination, given the assertion that intelligence depends on the environment and both cannot exist independent of each other.

The kinds of societies that have emerged in human social evolution had been structured through the social organization of knowledge and the communication systems that thereby resulted in the forms of advantage and progress which these two things have been made possible in time and space. For all of the history of human existence, arguably everyone, has always, in one way or the other been preoccupied with accumulation of some sort of knowledge through learning. This can be implicit – as with practical skill or expertise, or explicit – as with the theoretical understanding of a subject; it can as well be more or less formal or systematic. In fact, most of the things we do in our everyday interactions is either instructing or passing on essential information embedded with knowledge.

This learning process produces the cultural advantage that can spread across time and space. The emerging civilizations of humans were capable of embedding themselves in the knowledge of time and space and at the same time being able to reconstruct, as it were, the nature and the notion of knowledge. This in itself has made people capable of expanding themselves across space because, with their written records people are able to produce much larger and efficient systems beyond the scope of the traditional oral cultures. The control of certain knowledge holds the key to power of the earlier civilizations. (Giddens, 2009).

Then suddenly people invented the dating systems, the invention of historical time which is dated according to the heavens and which at the same time allows for the enormous capabilities for violence. Violence, in the form of warfare, which Herbert Spencer aptly described as an inevitable stage in the development of human civilization. And this is central because the more we can transcend knowledge more effectively, the more we can generate not just forms of abstract power, but also military power.

If we think about it, an army needs coordination, it needs discipline, it needs to spread across time and space. The army also needs to be supported by other people, those who grow the food the army rapaciously takes as it goes along. The army cannot itself produce since it demands an extension across time and space. These forms of organizations and recordings thus, more or less transform history because they create history; transform the existence of these societies. By creating the linear history, embedded in texts in the past, it then allows access to the past, and no matter how much it has transmuted which simply is not possible in oral cultures, where most of this was contained in myth. I hasten to add that this is a simple sketch of things which are more complicated on the ground than described herein.

Another major argument is that structural constitutions or reconstitutions of knowledge underlie all the other major transformations in human history including the rise of the Western civilization and the kind of global order in which we live today. By and large, I want to argue that once the earlier civilizations realized the transformative potentials of writing and date notions, the capabilities these two created for human communities to transcend time and space, great strides have been made by humans to create more knowledge. Chiefly philosophy, arguably, the foundation of all other cognitive and otherwise knowledge such as mathematics, physics, geometry, astronomy, economics, geography, chemistry and a plethora of others that have projected human civilization to unimaginable levels.

The knowledge of the natural sciences has made it possible for man to stand apart from other animals in terms of our ability to control the nature, live in houses as opposed to caves, create instruments to grow our food, surmount plagues and other forms of deadly diseases, settle down and put other animals under our submission. By being able to transcend time and space, we have also been able to, at certain points of our civilization, transcend our physical and biological capacities to create and destroy, to do and undo.

All this has been achieved in spite of the fact that, unlike most other animals, human beings generally need a complex adaptive system in order to survive. Human’s survival is a group thing; and for that matter, living and working in groups, for man remains and has always been a survival strategy. Therefore it is very obvious that our survival is made possible only in groups, and those who cooperate more have a greater survival rate. In the same vein, the development of any society requires a confluence of knowledge. Advancement in the rise of culture in any society is directly proportional to the aggregate level of knowledge of the people who make up the society.

The main difference between us living in the modern world today and the primitive people of the past is simply our human capital. The primitive people had land, forest, sea, and all the resources that we have today. They had them in greater abundance because none of them had been used up, but the primitive man did not have the knowledge that it would take to turn those resources to his own purpose. Without the cultural prerequisites, such as intelligent knowledge for developing into real wealth, the raw natural resources themselves are of little or no value (Sowell, 2015). Knowledge is the gap between the sea at the front door of communities lacking drinkable water in their homes, between the arable land under the feet, and inadequate food production, being defenseless before preventable and treatable diseases.

As the knowledge of writing and reading was crucial for what it made possible in the diffusion of knowledge in the course of time and space, the same thing is true of printing with the advent of modern state. The modern nation-state is a kind of crucible power and also crucible violence which wouldn’t be possible without the invention of printing and later on the invention of mass literacy. It certainly made possible forms of knowledge diffusion transcendence well beyond anything the earlier societies were capable of when of course they only had small literate elite. The powers behind our transformative industrial revolutions – the steam, electrical-electronics, and now the internet– are all products of human ingenuity, they are made possible by human diffusion of knowledge.

Creative mind is the instrument by which humanity advances. Through it, each advance is retained and made higher ground for further advances. The narrow span of human life allows each individual to go only a short distance. Each generation does little by itself. Yet succeeding generations continue to add to the gains of their

ancestors, and gradually elevate humanity. (George 1996). All our transformative industrial revolutions have been made possible unequivocally, thanks to our capability to use our inventive knowledge to create new machineries to help us do the most intricate jobs that are humanly impossible.

The advent of the Industrial 4.0 means for the first time human society has entered a new phase of civilization, a civilization of knowledge or intelligence explosion, whereby human beings are capable of building super intelligent machines – based on artificial super intelligence, artificial general intelligence, technological singularity-with intelligence that surpasses that of human beings. It is also the first time that technology has entered into the human body. With the computer enabled knowledge, AI is poised to surpass human cognitive and biological abilities ([wikipedia.org/wiki/Industry\\_4.0](https://www.wikipedia.org/wiki/Industry_4.0)) Eden (2012). As Dr. Klaus Schwab puts it in Davos 2017, ‘the fourth industrial revolution will not only change the way we work, it will change us’ (Schwab, 2018). Notwithstanding all these assertions, I strongly believe in the philosophy that man would never invent a machine that he cannot control

#### **The Future of Knowledge and society**

Researchers at Washington State University and 13 other institutions have found that the arc of prehistory bends towards economic inequality. In the largest study of its kind, the researchers saw disparities in wealth mount with the rise of agriculture, specifically the domestication of plants and large animals, and increased social organization. Their findings have profound implications for contemporary society, as inequality repeatedly leads to social disruption, even collapse, said Tim Kohler, lead author and WSU Regents professor of archaeology and evolutionary anthropology at WSU. The United States, he noted, currently has one of the highest levels of inequality in the history of the world. (Kohler, 2016) “Inequality has a lot of subtle and potentially pernicious effects on societies,” Kohler said.

The study gathered data from 63 archaeological sites or groups of sites. Comparing house sizes within each site, researchers assigned Gini coefficients, common measures of inequality developed more than a century ago by the Italian statistician and sociologist Corrado Gini. In theory, a country with complete wealth equality would have a Gini coefficient of 0, while a country with all the wealth concentrated in one household would get a 1. (The Economist 2018)

The researchers found that hunter-gatherer societies typically had low wealth disparities, with a median Gini of .17. Their mobility would make it hard to accumulate wealth, let alone pass it on to subsequent generations. Horticulturalists — small-scale, low-intensity farmers — had a median Gini of .27. Larger scale agricultural societies had a median Gini of .35. To the researchers’ surprise, inequality kept rising in the Old World, while it hit a plateau in the New World, said Kohler. The researchers attribute this to the ability of Old World societies “to literally harness big domesticated mammals like cattle and eventually horses and water buffalo,” Kohler said.

Draft animals, which were not available in the New World, let richer farmers till more land and expand into new areas. This increased their wealth while ultimately creating a class of landless peasants. “These processes increased inequality by operating on both ends of the wealth distribution, increasing the holdings of the rich while decreasing the holdings of the poor,” the researchers write. The Old World also saw the arrival of bronze metallurgy and a mounted warrior elite that increased Ginis through large houses and territorial conquests. (Kohler, 2017) The researchers’ models put the highest Ginis in the ancient Old World at .59, close to that of contemporary Greece’s .56 and Spain’s .58. It is well short of China’s .73 and the United States .80, a 2000 figure cited in the Nature paper. The 2017 Allianz Global Wealth Report, puts the U.S. Gini at .81, and Kohler has seen the U.S. Gini pegged at .85, “which is probably the highest wealth inequality for any developed country right now.” (Kohler, 2017)

Societies with high inequality have low social mobility. Kohler pointed out that rates of mobility have fallen from 90 percent for U.S. children born in 1940 to 50 percent for children born in the 1980s. The results, wrote the researchers, “imply that reviving the ‘American dream’ of high rates of absolute mobility would require economic growth that is shared more broadly across the income distribution.” Other studies have found that unequal societies tend to have poorer health, while more equal societies have higher life expectancies, trust and a willingness to help others, (Kohler, 2017).

Presumably, since mankind started with the same capacities at the same time, knowledge must help us explain the great disparity in social development that we are now experiencing. It must account for regression, as well as progression; for different rates of progress; and for the bursts and starts and halts. In short, it must tell us what the essential conditions

of progress are – and which social arrangements advance it and which retard it. (George, 2016)

This should not be too difficult to explain if we simply look, we can see it. And although I do not pretend to give it scientific precision, the effort here is merely to point it out. The power of imaginations and desire for creativity inherent in human nature are the incentives to progress: to satisfy our physical, intellectual, and emotional wants. Short of infinity, they can never be satisfied – for they grow as they are fed. Mental power is, therefore the motor of human progress. Civilizations advance in proportion to the mental power expended in progression – that is, mental power devoted to the extension of knowledge, the improvement of methods, and the betterment of social conditions. There is a limit to the amount of work that can be done with the mind, just as there is a limit to the work that can be done with the body.

Presumably, any human being living alone would need all of his or her powers just to maintain existence. People progress by cooperating with each other to increase the mental power that may be devoted to improvement. Mental power is set free for higher uses only when human beings associate in communities. Improvement becomes possible when people come together in peaceful association. This permits the division of labor — and all the economies that come from cooperation. The wider and closer the association, the greater the possibilities of improvement. Therefore, association is quintessential of progress in every human society.

However, whenever conflict is provoked, or inequality (of power or condition) develops, the tendency for a society to progress is lessened, checked, and finally reversed. Mental power is wasted in conflict to the extent moral law is ignored – for moral law gives each person equality of rights. The terms equality or justice signify the same thing here: the recognition of moral law. So equality, or justice, is the second essential of progress.

Looking over history, we see civilization springing up wherever people are brought into association – and disappearing as this association is broken up. As people have been brought into closer and closer association and cooperation, progress has gone on with greater and greater force. Association frees mental power for improvement. Equality keeps this power from dissipating in fruitless struggles. (George, 1996)

Knowledge of money for society development

Money is something so practical that through the centuries it was “invented” in all but the simplest societies through human ingenuity. Although money

took different forms in the earlier stage, with time it has become a medium of exchange, unit of account and means of saving. Notwithstanding, it seems, for most people the knowledge of the source and nature of money is far from being perfect and even those who are supposed to know better often get the wrong image. Money, we are made to understand is the height of a successful life, a level of achievement that one must work hard to reach. Hence the rich, it seems, are more enterprising, risk oriented or just lucky in life. ‘The study of money, above all other fields in economics, is one in which complexity is used to disguise truth or to evade truth, not to reveal it’. (Galbraith 1975)

There are too many misconceptions about money and our monetary system all of which only amounts to a gross distorted knowledge of money. Most people consider both as a fact of life, a kind of natural phenomenon that should be accepted as given. In other words, money and the monetary system are not seen, even by experts, as something that is human-made and therefore, in principle, something that can be changed as we see fit.

Yet it can be changed: as a society we can make new agreements about money and organize our monetary system in a different way. Even specialists such as economists and bankers often provide a faulty explanation of what money is and how it is created. That’s not really surprising: the Bank of England recently stated that explanations in many economic textbooks are also misconceived. (Bank of England, 2014)

The idea that banks work only with money created by central banks and with the money depositors put in their care is wrong. In reality only about three percent of the total money supply, the part consisting of coins and banknotes, is created by the central bank. The remaining 97 percent of money is produced by private banks when they give loans. This is done through a simple accounting practice which results in the amount of the loan – and the money thus created – being added to both sides of the bank’s balance sheet -to the assets as a loan; to the liabilities as a deposit in the account of the borrower. As the British Central Bank, the Bank of England, put it in 2014: “Whenever a bank makes a loan, it simultaneously creates a matching deposit in the borrower’s bank account, thereby creating new money.” (Bank of England, 2014)

Politicians and policy makers the world over are at their wits end on the issues of how to make the economy perform more effectively, how to achieve growth, how to provide jobs and housing, excellent, affordable education and health

care for all, how to avoid crisis and seasonal inflation, how to achieve sustainable economy with little impact on the environment, how to prevent forced migration and displacement, how to end poverty and social injustice. Humanity and societies face huge economic, social and environmental problems that threaten the existence of states and welfare of billions of people, now and even so in the future, and the main reason these problems cannot be addressed effectively is lack of money! Our current monetary system is embedded with so many faults as to restrain us in addressing our economic, social and environmental problems, and even worsen them.

How does money, the only resource that can be created at will, become the main obstacle to addressing society's problems? This is because governments don't create money for government needs. Instead of creating money for social needs and checking inflation, governments go cap in hand for loans from private banks. This is because governments have very little control over creation and distribution of money. The (misplaced) fear of money creation by government causing uncontrollable inflation is so strong that money creation by the government for use by the government has become a taboo! (Doorman, 2015) This certainly is a reflection of the big gap in our knowledge of money

Whereas the principle of money is very simple, but especially during the past two centuries money has taken on an almost magical character. It is no longer seen as something created by man that, therefore, can be manipulated freely, but as something that conforms to its own laws that are beyond the control of mere humans. Therefore we barely dare intervene in the monetary system: we are afraid this will lead to uncontrollable events determined by timeless monetary laws, with terrible financial and economic consequences.

The science responsible for assigning magical properties to money is economics. Mainstream economic theory assumes that economic systems are in balance or are moving towards a balance, or with a fancy word, equilibrium. So too with money: economists assume that the money supply is balanced with supply and demand. Therefore, in line with general economic theory, the quantity theory of money teaches that pumping more money into the economy without a corresponding increase in the production of goods and services inflation, meaning an increase in the overall price level, is inevitable. This theory has never been proven. It is, in fact, little more than faith, based on a series of assumptions that have little to do with reality. But as a faith it is so dominant

among economists and in their wake policy makers, politicians, the media, and almost anyone who thinks he or she knows something about economics that it is at the basis of all financial policy. (Doorman, 2015)

We have been conditioned to accept the greatest fear for hyperinflation: money rapidly losing its value with fatal consequences for the monetary system and the economy as a whole. This fear is greatest in people with a lot of money, but ordinary people with some savings and employees whose salaries are not automatically adjusted to inflation also suffer heavily. Only those with large debts benefit: their debts are all but wiped out as the value of money approaches zero. Hence money must be scarce!

### **Money need not be scarce**

2) Money is a conventional medium of exchange, an accepted unit of account and means of saving. It is something artificial, something on which we have agreed as representing a certain value. Because most money is electronic, meaning it does not physically exist but only occurs in the memory banks of computers, it can, in principle, be created at will. Nevertheless we have been made to understand that the major problem in addressing society's environmental, social and economic problems is lack of money. That is irrational: since money can, in principle, be made at will the lack of it should never be an obstacle to addressing society's challenges.

Ask our politicians to effectively address climate change: no money. Invest in energy efficiency and renewable energy: no money. Nature and environment: no money. But also: better and cheaper education: no money. Employment programs: no money. It's not as if there is an absolute shortage of money. The problem is that banks and other financial players pump most of the money into the financial or virtual economy, where it is used for speculation rather than production and consumption. At the same time the "real" economy of production and consumption of goods and services faces a money shortage. In many countries the national infrastructure is in poor shape, even crumbling, as there is little or no money for maintenance, let alone improvement.

The peculiar situation of ceding the privilege to create money to private banks thus leads to the situation that government, because of the fact it has to tax to raise money, is seen as a kind of parasitic entity living on the pockets of hard-working citizens and enterprises. And in a sense with the current monetary system that is indeed the case. But this situation

stems from our conscious or unconscious choice for our current monetary system in which the privilege of money creation is yielded to private banks. And it is the result of economic faith: the economic dogma of mainstream economics that has made a taboo of money creation for direct use by government.

Finally the system promotes absolute poverty and impoverishment. Private bank money creation contributes, indirectly, to poverty, deprivation and inequality. Lending money to poor people is not profitable, therefore little or no money is created for them.

Even if interest rates are high because of the perceived risk of default and high administrative costs (ten small loans are more expensive to manage than one large loan). At the same time, as a result of the delegation of money creation to the private sector governments are withheld the money with which poverty and impoverishment could be

addressed. This, of course, is not only a problem of our monetary system: addressing poverty also depends on knowledge and political will. Yet the current monetary system complicates the political choice for poverty reduction because the needed funding cannot be created but must be raised by taxpayers or borrowing.

All things considered, it is strange that we do not address such important problems due to lack of money. After all, money can, in principle, be created at will. Most money is electronic: it does not even exist physically. Tangible money, coins and banknotes, form only two to three percent of the total money supply. The remaining 97 percent goes under various names: deposit money, bank money, scriptural money and more recently, electronic money: it exists only in the memory banks of computers. Of that we can create as much as we need: all it takes is a few keystrokes on the right computer. (Doorman, 2015)

In practice there are limitations to creating money, such as the quantity of goods and services the economy can produce. But if production is much below that capacity it would appear logical to create money to garner the underused capacity of our economy to address society's challenges. Doing so would have the additional advantage of triggering the private sector investment and job creation that would help overcome the economic crisis.

The money creation privilege comes to the private banks by means of power usurpation. Almost all of our money is created by private banks. It is created out of thin air by an accounting practice engaged in when a bank makes a loan. The privilege of being able to create money in this manner endows banks

with profits that should benefit society as a whole. The fact that the whole world accepts the current monetary system as a norm does not necessarily mean it is right. It follows logic therefore, that as a society if we know the capability of money to improve our temporal life then it becomes imperative that we brazen out knowledge in this context.

Humanity would require more knowledge to rid society of the evils of poverty and inequality that continue to rage on despite the market economy's greatest capability to produce incredible material wealth for the wellbeing of all. So far, it seems, our knowledge of money as a means to an end is limited to creating money for the capitalists to accumulate, and as the market becomes more and more money depleted, resulting from hoarding by the rich, we enter into a cycle of boom bust financial crisis, and the process begins again.

Monetary expert Bernard Lietaer estimated for 2010 that of the 4 trillion dollar traded daily in currency transactions only 2% was of significance for the “real” economy, e.g. for importing or exporting goods and services; the other 98% was used purely for speculation. (Bernard Lietaer et al. 2012). But it is the simplest of all mathematics that as long as some very few people must have the more share of the wealth of the society, there is bound to be less for the rest of the population to share. “People need to be aware that inequality can have deleterious effects on health outcomes, on mobility, on degree of trust, on social solidarity and security. “We’re not helping ourselves by being so unequal.” (Kohler, 2012).

Allowing a few capitalists to get away with a lot more at the expense of the rest of the masses can make inequality so intolerable as to trigger violent demand for change. There is no knowledge to justify inequality and poverty against the backdrop of all the resources available at our disposal to avert them. All we need is a new model of economy that will allow us to live within the planetary means and at the same time the welfare of everyone is being met. As money has an immeasurable impact on the life of individuals, businesses and nations, the need for the entire society to get the knowledge of how to use this ubiquitous resource to improve life has become pertinent.

I want to argue as well that rising costs of living has been one of the major culprits in perpetrating inequality and poverty, to the extent that having a job in many advanced countries no longer guarantees a poverty free living. This fact has been downplayed or totally ignored for a long time by the mainstream economists and those who think they know something about economics. Rather than making



endless demand for additional money, it should be possible to put a price stability mechanism in place in our economy, achievable through a strong political will and resolve to address the challenges squarely and at the proper level. Once we are able to overcome all our ideological prejudices about money, this would serve as the point of departure toward the knowledge that making money available to everyone ought to be a right and not a privilege that it is only in the good of the entire society for everyone to have access to livelihood in as much as money per se costs nothing to produce, that as it is inhuman to preclude access to water or air, in the same vein it is inhuman to deny anyone livelihood particularly with the staring knowledge to achieve this. Any measure in this direction embedded with watertight price stability in time is a little bit thing to achieve.

### **Know thy neighbour.**

In its foreign and domestic policy, Kazakhstan has made a number of important accomplishments to its credit, and, unlike other states in the Central Asia, it has set out an ambitious agenda for the future (Gupta, Orlovskiy, 2017). Its leaders have sustained a skillful, complicated diplomatic strategy, which has effectively balanced the country's ties with China, Russia, and the United States. (Sokolsky et al, 2016)

Applying the elaborate knowledge of his Russian neighbors and their political aspirations, in 1994, Kazakh President Nazarbayev called for Eurasian integration and published a plan to form a "Eurasian Union of States", likely a way of cementing Russian-Kazakh relations without undermining Kazakh national identity. After land related protests and terrorist attacks in north-west Kazakhstan in May-June 2016 which the Kazakh government blamed on Islamic extremists, Russian nationalists talked about a potential Russian military intervention in northern Kazakhstan, which is home to a sizeable ethnic-Russian minority. (Dave & Kobayashi, 2018). But the appeal of separatist tendencies is

lessened by Kazakhstan's membership in the EEU since it mitigates fears of ethnic Russian minorities. In other words, the concept of Eurasia is useful for Kazakhstan, both in managing relations with Russia and in bridging its own internal ethnic divides.

The EEU is presented as a purely economic project but in practice Russia also views it as a geopolitical and ideological effort – a platform for Moscow's own Great Power aspirations. Russian officials and analysts talk of "Greater Eurasia" in which Moscow serves as a key pivot in a region stretching from Eastern Europe to East Asia. Meanwhile, in reality, the concept of Greater Eurasia for now has remained mostly rhetorical (ICG, 2017).

For Kazakhstan though, this has involved a consummate balancing of power combined with complex adaptive strategy. On the one hand, officials in Astana do not wish to get caught up in Russia's complex geopolitics. Thus Kazakhstan refused to join Russia in imposing sanctions on agricultural imports from North America and the EU or on imports from Turkey in 2015. They maintain relations with Ukraine despite Russia's conflict with Kyiv. On the other hand, they see benefits in a project that can promote Eurasian integration. (ICG, 2017).

In the last years, Kazakhstan "has given clear examples of anxiety" over Russia's bid to introduce European Union-like institutions into the Eurasian space, In particular, that anxiety relates to "serious disagreements about widening, both in economic terms, towards a monetary union, and political terms, over the inclusion of institutions such as a parliament, that might signal a political agenda, which has been perceived as a soft plot for the Russian neo-imperialism ambitions. (Eurasia Net, March 2016).

Its ability to maintain internal peace, equal rights and opportunities for all in a country that is home to over 100 nationalities (See table 1) has earned Kazakhstan not only economic prosperity, but also international recognition as a stable country, a prosperous emerging economy. (Europe and Central Asia Report, 2017)

**Table 1** – Ethnic composition of Kazakhstan population

Nationality	1989	1999	2009	2016
Kazakh	6 534 616	7985039	10096763	11748179
Russian	6 227 549	4479620	3793764	3644529
Uzbek	332 017	370663	456997	548841
Ukranian	896 240	547052	333031	289724
Uyghur	185 301	210365	224713	256295

Tatar	327 982	248954	204229	202934
German	957 518	353441	178409	181754
Korean	103 315	99665	100385	107169
Turkish	49 567	75900	97015	107944
Azerbaijani	90 083	78925	85292	103514
Belarus	182 601	111927	66476	58062
Dungan	30 165	36945	51944	66209
Kurd	25 425	32764	38325	43974
Tajik	25514	25657	36277	44738
Polish	59956	47297	34057	31938
Chechen	49507	31799	31431	32695
Kyrgyz	13718	10925	23274	NA
Bashkir	41847	41847	23224	17263
Ingush	19914	16893	15120	NA
Moldavian	33098	19458	14245	NA
Greek	46746	12703	8846	NA
Mordva	30036	16147	8013	NA
Chuvash	22305	11851	7301	NA
Jews	18492	6743	3485	NA
Others	174670	NA	NA	185195
Total	16464464	14953126	17009597	17670579

Source: Meldibekova, Altayev, 2019

As a reward for President Nazarbayev’s extensive diplomatic knowledge applied in attempts to bring the Syrian warring factions to the negotiation table in May and October of 2015, in mid-December 2016 Vladimir Putin of Russia and Recep Tayyip Erdoğan of Turkey agreed on Astana, the capital of Kazakhstan, as the new venue for carrying on the Syria peace talks. (Wikipedia. org-Syrian War) So far it seems the Astana talks are yielding positive results as end to the war in Syria seems already in sight. (Kaznet, 2018). This undoubtedly is a huge diplomatic success for Mr. Nazarbayev.

This ability to maintain peace in a volatile region under constant political instability and threatening environments is definitely a wealth of knowledge that the world can learn from Kazakhstan.

### Discussion and result

Using a conceptual approach and the perspective of economic sociology, this article contends that societies need proper education on money and its sources. The knowledge of recycling money in order to maintain stability and safe the planet has to be prioritized and inculcated into the young generation, up and coming

policy makers. The basic principles behind money recycling are as simple as enumerated below:

- make a fixed monthly income available to: (i) people earning below average national income; (ii) people too old to work (iii) adults too incapacitated to work
- keep circulation of money with a multiplier of 2.5 in order to prevent monetary inflation
- mandate high income earners and businesses to return a fixed percentage of income to the banks
- use a special formula\* to make certain percentage of the aggregate returned money available for government spending at all levels
- put a ceiling on government spending and stop issuing bonds or borrowing
- prevent all forms of speculations on energy, estate and currency; or levy 99% taxation on speculations.
- keep business loans at 3% APR
- end all forms of bonuses, welfare transfers, allowances and all forms of taxations
- make demographic structures the determinant of our productions for a sustainable development, sans environmental degradation.

\*Not included

## Conclusion

In this volume the author has demonstrated how knowledge continues to enhance human civilizations to transcend time and space and how knowledge will continue to make for a comfortable life with the advent of cutting edge technology. Against this background, it is becoming paradoxical that institutional economy is failing to achieve the goals it is designed to achieve, and so far it seems the mainstream economists and bankers are getting the wrong image. The industrial revolution powered

by the internet of things, big data and analytics are poised to make matters worse by either deskilling workers or in the worst scenario making human redundant thus, precipitating mass unemployment and aggravating already worse case of inequality. In this context, in the article the author proposes a revolutionary but non-radical way of avoiding this impending human calamity. We believe that it has become imperative for humanity to devise a new economic model that would allow us to live within the planetary means while at the same time the welfare of everyone is being met

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