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Quest for a New Paradigm in Economics

A Synthesis of Views of the New Economics Working Group*

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Abstract

The remarkable economic achievements of the past two centuries have cast an illusion of omniscience on the discipline of Economics, which even repeated catastrophic policy failures have still not entirely banished. The gap and disjuncture between prevailing economic wisdom and its effective application to promote human welfare and well-being are enormous and widening rapidly. The gap between current economic performance and the economic potential of global society has never been greater. Both have been aggravated by the rapid evolution of economy and society in recent decades. An ideology masquerading as scientific theory, mainstream theory fails to provide the necessary insights to guide us through the next phase of global social evolution. This paper summarizes major conclusions from a series of meetings organized by the World Academy of Art & Science over the past half-decade. It examines important premises and principles of a transdisciplinary framework for ecologically-sustainable, human-centered development founded on knowledge of the underlying social processes that govern human accomplishment and social evolution. It challenges the implicit values and assumptions on which current theory and practice are based. It exposes the central role played by social power in determining the operations of economy and the distribution of benefits in society. It seeks to construct a holistic paradigm to reunite and integrate thinking about economy with the political, legal, social, organizational, ecological and psychological dimensions of which economy has always been an inseparable part. It points to the need for a transnational theoretical framework as a unit of analysis

* See detailed acknowledgement of group member contributions at the end of the paper prior to the endnotes.

and emphasizes a global perspective, which aims to maximize the well-being of humanity as a whole. In recent times, growing awareness of the limitations of the present economic system and the real planetary boundaries and ecological constraints on unlimited growth has overshadowed exploration of the equally real social potential that lies unutilized due to limitations in current theory and policy. The central aim of the paper is to develop insights that will lead to formulation of a new paradigm of economics, which will generate effective public policies and solutions to existing crises; revolutionize textbooks and teaching of the discipline of Economics around the globe; unleash societal potential for meaningful transformations to benefit the welfare and well-being of all humanity; and safeguard the planetary environment for future generations.

1. Signals for Change

Humanity is confronted with multi-dimensional challenges of unparalleled scope, magnitude and complexity. They are global in extent and inextricably interconnected. They fail to respond to partial, piecemeal, sectoral solutions and uncoordinated national level initiatives. They ruthlessly expose the inadequacy of prevailing policies, institutions and social theory. These challenges encompass political, legal, technological, social, cultural and ecological issues, but economy lies at the heart of the matter. In recent decades, economy has supplanted war and politics as the primary field and engine for global social evolution.

The dismal science was founded during an age in which food, goods, money and information were scarce. Today we live in a world characterized by surplus global production capacity, unprecedented access to information, zero marginal cost products and services, the proliferation of complex and increasingly integrated networks operating at lightning speed, rapid growth of a sharing economy and collaborative production. These fundamental changes challenge many of the assumptions that underpin mainstream Economics. At the same time, we live in an age of increasingly unstable financial markets, huge corporate cash hoards, burgeoning capital surpluses playing the global casino for higher speculative returns, declining investment on Main Street, stagnant wages and a declining share of labor in national income in spite of rising labor productivity, rising levels of inequality, massive investments in automation and robotics aggravating already high levels of youth and chronic unemployment, fewer startups and IPOs, increasing concentration of global economic and financial power spurred by peak numbers of mergers and acquisitions and network effects, a huge boost in share buybacks generating windfall profits to investors and executives instead of investment in R&D, too-big-to-fail financial institutions thriving on moral hazard, massive offshore corporate tax evasion, and increasing power of money in politics.[*,†,‡] In addition, sustainability, efficient allocation and fair distribution are being seriously challenged by ecological limits with regard to freshwater, deforestation, land system change and climate

[*] Rana Faroohar reports that the number of new firms as a share of all businesses in USA shrank by 44% between 1978 and 2012 and six of the 10 biggest individual political donors in 2016 were hedge-fund barons. "American Capitalism's Great Crisis," *Time*, Mar. 12, 2016.

[†] Roc Armenter reports that the share of labor in US national income remained remarkably steady at 62% for almost 50 years before declining sharply in the new millennium. "A Bit of a Miracle No More: The Decline of the Labor Share", *Federal Reserve Bank of Philadelphia Research Department*, 3rd quarter 2015, 1.

[‡] According to ILO and OECD, between 1990 and 2014, 26 or 30 advanced countries reported a declining share of labor in national income ranging from about 6% in UK to over 10% in USA and more than 14% in Spain. Similar declines were reported in emerging countries including Turkey, South Africa and Mexico. ILO and OECD, "The Labour Share in G20 Economies", Feb. 15, 6.

change.[1] These positive and negative symptoms are both indicative of an economic system that has outgrown its intellectual foundations. They compel us to distinguish between positive and negative forms of development and to recognize that it is at least as important to discourage its negative expressions as it is to foster the positive.

Economics is in the midst of an identity crisis. Classical concepts and models no longer provide sufficient insight and guidance for navigating the complex nexus of forces evolving with ever increasing rapidity. Globalization has extended the boundaries of production, marketing, financial institutions and employment beyond effective reach, regulation and control by individual nation-states. The lightning speed of technological and social innovation has far outpaced the adaptive capacity of national level institutions, legislation and social attitudes. Existing economic theory struggles unsuccessfully to explain these developments and prescribe effective remedies within the existing conceptual system. Future economic prospects are characterized by increasing levels of volatility, instability and uncertainty. Public policy debate is marred by rising levels of doubt, confusion, pessimism, polarization, reactivity and extremism. The recent Stockholm Statement by thirteen eminent economists on principles of policymaking reflects the growing recognition that prevailing theory and policies are inadequate.[2]

Economics is no longer merely a battlefield for perpetual skirmishing between different social philosophies. It has become a field of confrontation between the past and the future. The stakes are too high and too urgent to be left to unstructured, leisurely academic debate or pious populist pronouncements. These symptoms point to the need for a fundamental, comprehensive reexamination of economic and social thought. They present a compelling call to transcend the limitations of existing knowledge and the prevailing conceptual systems in which it resides. They prompt us to seek a more inclusive and integrated framework within which current ideas complement and complete rather than compete with one another.

The reputation of Economics has benefited enormously from humanity's astounding economic progress over the past two centuries. Since 1800, real per capita living standards have multiplied approximately 12-fold in spite of a more than 7-fold growth in the world's population. That reflects an 84-fold growth of real world GDP in 200 years. By any standards, the progress has been phenomenal. Why, then, tamper with success? One obvious answer is that the rise in living standards for the vast majority of OECD countries has slowed dramatically in recent years and is no longer responding to conventional economic policy measures. Moreover, the major benefits of growth are accruing to an increasingly narrow portion of the population at the top. But a greater truth is that humanity's remarkable performance has been due to a great many factors outside the boundaries of conventional economic theory which have received inadequate recognition and attention. The 84-fold growth of GDP has been the result of the spread of democracy, unprecedented freedom of action, and soaring levels of education, which have combined to dramatically increase the aspirations, knowledge, skills, creativity and innovation of the workforce. It has been the product of massive advances in science and technology in fields such as transportation, communication, energy, mechanization, computation, and automation. Though less often recognized, it has equally been the consequence of strides in the technology of social organization, giving rise to countless new

types of institutions, systems and modes of interaction from the mail order catalog to e-commerce, from just-in-time inventory to global supply chain management, from franchising to outsourcing, from TV networks to social networks, and so on. And more significant than any of these, it has been the result of radical advances in human rights, dignity, freedom of thought, and social equality that have liberated human aspirations, energies and creativity from the shackles of all forms of discrimination, exploitation, injustice, slavery, apartheid, oppression, and persecution.

Greater understanding of the workings of economic systems has no doubt been a contributing factor, but one whose impact would have been severely limited were it not for these wider evolutionary changes. Today, the inadequacy of existing concepts acts more as a constraint than a catalyst because it focuses too narrowly on conventional economic instruments while neglecting the far more powerful social forces available for global progress. One of the aims of new economic and social theory must be to make conscious and explicit the full range of the forces that have supported the evolution of the global economy up to now and the full spectrum of policy instruments available to promote future progress. Moreover, it must seek to discover the creative social process by which these forces express themselves, the determinants that focus and direct their energies, the means by which these forces are channeled and transformed into power, and expressed through skilled execution of work.

Today Economics consists of a patchwork of premises, concepts, theories, models, measures and tools tenuously classified into several broad theoretical systems and grouped together—as opposed to truly integrated and unified—into myriad disciplines, schools, sub-disciplines and sub-schools. Many of the premises are based on acute observations of specific phenomena at least partially true at times in the past under certain circumstances and conditions, while others are theoretical postulates valid only under ideal conditions, largely non-existent in the real world. Many of the models are useful, though oversimplified, generalizations from specific events, often mistaken for reality itself. Many of the tools are useful for specific types of analysis. Some of the measures provide real insight into specific types of events, but lose much of their significance when aggregated or applied over extended periods of time. The superabundance of information available drowns serious theoretical debate in a sea of data and minute piecemeal analysis.[3] No matter how high-sounding, insightful or useful, they do not, all or in part, constitute an adequately coherent, cohesive, integrated framework of knowledge to understand, navigate and maximize human welfare and well-being during the complex, rapidly changing times in which we live. No matter how great the service they have provided along the way, there is an urgent need to move beyond.

New paradigms do not reject or invalidate existing truth. They place it in a wider context, as Relativity Theory and Quantum Mechanics established the boundaries within which the laws of Newtonian Physics remain fully valid. They revealed that the principles applicable to everyday phenomena on earth were insufficient to understand reality on a cosmic scale at velocities approaching the speed of light or at the infinitesimal scale of subatomic particles which constitute the foundation for the material world. Expanding the inquiry revealed unimagined physical powers and creative capabilities, which form the basis for recent advances in computing, biotechnology, lasers, nanotechnology and countless other fields. A potential

of even greater practical relevance to humanity awaits the development of new economic and social theory. Historically, such developments have tended to emerge out of obscurity on the periphery of prevailing thought, rather than by a reformulation at its intellectual center, due to the natural defensiveness of entrenched ideas. What is needed is not an all-out war to the finish between partial truths, but a new synthesis founded on a wider and deeper understanding of the principles, forces and processes governing social evolution.

1.1. Evolution of Economy

Intellectual paradigm shifts of this magnitude have occurred innumerable times in different fields of science. There are manifold signs that the time has come for another. The nature of economy has changed dramatically since the 18th century. Physiocrats pronounced agriculture as the true source of wealth and mercantilist policies enriched merchants and princes at the expense of the general public. Since then the concept of property has evolved from land and other types of material assets to include intangible technological, commercial and intellectual forms. The concept of capital has evolved to reflect the central role of individual and social relationships, capacities, organization, resourcefulness, creativity and innovation. The nature of economic goods and services and the relative contribution of agriculture, manufacturing and services have been radically altered. The non-material is no longer immaterial in economics. Information, intellectual property, social attitudes, public trust, brand loyalty, connectivity, organizational know-how, networks, human energy, vision and values have become powerful economic determinants. Values are a primary determinant of value in the 21st century.

The emergence of the knowledge-based service economy founded on a borderless communication and transportation network has transformed economy from relatively isolated and independent centers of mining, manufacturing, distribution and consumption into an increasingly interconnected, interdependent and unified global organization. The shift to services now pervades even agricultural and manufacturing activities and enterprises, where research, design, logistics, marketing and after-sales service have become the largest fields of employment. The enormous fixed capital investments involved in service delivery in transportation, communications, education and healthcare undermine the utility of conventional marginal cost economics. The marginal cost of an additional telecom customer, e-book reader, airline passenger, university student or hospital in-patient is approaching zero. The prolonged extension of utilization time from point of sale back five or ten years to the point of initial investments in basic research and forward many years to the point of final disposal and expiration of warranties makes the time dimension of product and service delivery an increasingly critical determinant of economic value.[4]

Economics can no longer afford to assume a positive relationship between economic activity, human welfare and well-being. The negative personal, social and ecological consequences of much of what we call growth increasingly offset its positive contribution. The boundaries between the monetarized and non-monetarized sectors of the economy are continuously changing, with significant impact on human welfare and well-being. Conventional economics measures a double income gain when a housewife takes a paid job

requiring a two-hour daily commute and hires another person to take care of the family and household, but it does not take into account the decline in quality of life, health, nutrition and well-being for the individual or the family or the environmental cost of two additional commuters in terms of higher fuel consumption and air pollution.

> *"A science of human welfare cannot legitimately hide behind claims of value-free, objective scientific neutrality."*

There is abounding evidence to show that the challenges and existential threats posed by ecological imbalances cannot be effectively managed by market mechanisms. The extraction cost and market price of raw materials are not reliable indices of their real value to present and future generations. Remedial responses to the impact of deteriorating air, soil and water quality are reflected in GDP as positive economic activity, when they actually result from degradation of natural capital and growing threats to human well-being. The global bottled water industry grew from $60 billion a decade earlier to nearly $170 billion by 2013 and it is expected to reach $280 billion by 2020.[5] But the gain in GDP is primarily due to a rising concern regarding the deterioration in water quality, hygiene and safety, rather than any real improvement in standards of living.

All these factors have influenced the development of economic thought in the 20th century, but almost exclusively within the framework of premises and boundaries established by conventional mainstream economic theory which are no longer sufficient to address the challenges and the opportunities of the 21st century.

1.2. Evolution of Society

Changes within the field of economy only partially reflect the wider evolutionary processes impacting on all fields of social life and their relationships and interdependencies with one another. Never before has the world been so intimately interconnected. Never before have the different sectors and aspects of social existence been so tightly integrated. It is somewhat startling to reflect that prior to the publication of *Limits to Growth* by the Club of Rome in 1972, economy and ecology were commonly perceived as independent spheres of existence subject to separate and largely unrelated forces. Climate change, politically instigated migration and rapid advances in robotics and artificial intelligence have radically and irrevocably demolished the naïve notion that political, legal, economic, social, cultural and ecological reality, theory and policy can be isolated and insulated from one another. In a world operating at the speed of light and evolving with astounding rapidity, static equilibrium models of reality packed in airtight containers are increasingly suspect.

The need for a new paradigm in Economics is only the most visible sign of a broader need for a radical reformulation of social science and the wider knowledge industry in general. Without a new paradigm in knowledge we cannot have a new paradigm in society.[6] Long after the natural sciences began to transcend the limitations of compartmentalized,

materialistic, mechanistic and reductionist modes of thinking, the social sciences have remained fragmented, isolated and largely independent of one another. In the absence of a comprehensive conceptual framework for the study of the individual and society, they operate based on different sets of assumptions, principles, social processes and human characteristics. A century after Physics evolved new paradigmatic thinking to reconcile Newtonian theory with the discoveries of Relativity and Quantum Mechanics, the social sciences remain grounded in static, fragmented, mechanistic Newtonian thinking. This is not surprising given the astounding complexity of human processes, which dwarf in magnitude the relative simplicity of purely physical and biological processes. They have developed in response to the growing recognition of the interrelatedness of all social phenomena and have had significant impact on the construction of economic models and projections. But, thus far, their impact on the foundations of mainstream Economic theory has been limited.

1.3. Modern Paradoxes

Other factors compel us to examine the need for a radical departure from conventional mainstream economic theory. We are confronted with a perplexing and disconcerting paradox of unmet needs and unutilized opportunities. We live in a world in which unprecedented abundance lives side by side with persistent and unmitigated poverty. Billions of people continue to live at subsistence levels, while global financial assets have multiplied twenty-fold, from $12 trillion in 1980 to upwards of $250 trillion in 2015, equivalent to nearly four times global GDP. Of this, a mere 15% goes to support the real economy and job creation.[7] The world possesses sufficient surplus capacity to produce every variety of goods to meet the needs of every human being on earth, yet billions lack the purchasing power to acquire them. Hundreds of millions of able-bodied, willing workers are without employment opportunities and more than a billion are underemployed, while urgent human needs remain unfulfilled for more and better food, clothing, housing, education, healthcare, communications, transportation, and other essentials of life. The most advanced technologies coexist alongside the most primitive living conditions. There is something perverse about a system with so much power and such visible incapacity to meet human needs. These apparent failures are sufficient confirmation that a better system must be possible and that the world urgently needs new thinking to make the new paradigm a reality.[8] There is the added irony that the world is spending nearly $1.7 trillion annually on military expenditure—25% more in constant dollars than the Cold War peak—rather than channeling even a fraction of this amount to remedy the economic root causes of violence and terrorism.

Economics is perplexed by a second paradox. At a time of unparalleled real-world interconnectivity, independence and integration, economic thought and policy in different fields have become increasingly fragmented and divorced. Financial markets, which originally evolved to pool capital for investment in the real economy of trade and industrial development, have become increasingly divorced from the real economy, a world unto themselves, an activity spinning its wheels without producing or providing goods or services that meet real world human needs, while generating turbulence and uncertainty that undermine the stability of the real economy and the security, welfare and well-being of countless human beings. Economic theory has become increasingly divorced from empirical

fact and common sense. Speculation masquerades as wealth creation, when in fact it destroys much more than it creates. Over $12 trillion in funds are tied up in unproductive national forex reserves as insurance against speculative raids on national currencies.[9] Investment banks channel trillions more into speculative investment in commodities with depositors' funds, while enjoying preferential domestic tax rates and offshore tax havens for their profiteering. The Tax Justice Network has estimated that between $20 and $30 trillion are presently held in "offshore" tax havens—thus not available for taxation to generate the much-needed revenue for public investment and global public goods. "Just taxation" on global scale is thus a central problem that needs to be addressed. The "fiscal crisis of the state" is a symptom and a consequence of this global scale of vast concentration of wealth outside the tax system. A new paradigm is needed that transcends the fundamental dichotomies that have characterized traditional or mainstream Economics by the separation of economy from politics, society and nature.

"A true science of economy must be founded on an integrated science of society."

So too, the development and application of technology, which originally evolved to enhance the productivity, comfort and convenience of human beings, have become increasingly an aim and end in themselves, proliferating without consideration for their impact on human beings. The preference for technology over labor is not always beneficial, even in narrow economic terms. The wholesale rush toward mechanization and automation is thrown into overdrive by a policy bias toward capital and technology-intensive investments over investments in human capital, welfare and well-being. Economics has developed innumerable tools and measures to aid and assess the impact of technology investment decisions, but it refuses to come to terms with their enormous social consequences. Sensitive to the bogey of communism even a quarter century after the collapse of the Soviet system, economists persist in dealing with the economics of production and the economics of consumption as independent of one another. Additional expenditure on automation does not necessarily promote greater human welfare, unless it is accompanied by appropriate policies to ensure the distribution of benefits to the wider population. A science of human welfare cannot legitimately hide behind claims of value-free, objective scientific neutrality. Technological advances are the result of the cumulative progress of humanity over centuries and the benefits must necessarily accrue to the society at large. A science that refuses to take a position on this seminal issue lacks integrity, credibility and humanity.

A similar divorce pervades the relationship between economy and ecology, where life-supporting air and water have been reduced to tradeable economic goods and the impact of pollution on human health and quality of life has been reduced to unavoidable collateral damage in the war between unbridled, conspicuous consumption and sustainable well-being. Based on prevailing theory, we are called upon to entrust the fate of future generations and the planet we live on to the blind wisdom of a marketplace, whose very rules and functioning are framed to preserve and enhance the concentration of advantage among powerful vested interests.

And finally, there is the grand divorce between economy and society, an intellectual delusion masquerading as legitimate scientific theory. Classical economics views economy as a closed system. This viewpoint enabled economists to develop theories and models that ignore the impact of factors that have not been classified as strictly economic. This approach is no longer useful or tenable given the increasing complexity, integration and rapid transformation of social existence. The US subprime mortgage crisis and resulting global financial crisis have impacted every field of social life around the world. Economy is a subset of society, just as finance is a subsystem of economy. Their only rationale and claim to legitimacy are based on the service they provide to the wider society of which they are a part. Money and markets are instruments for social progress. *Economy exists to serve, not to dictate or dominate humanity.* Economic rules are man-made and intended to promote the stability, security, welfare and well-being of all human beings. All wealth is a social creation and has social consequences.

The notion of economy as separate from politics, administration and law is illusory. The perennial public debate over the role of government in regulating markets is misplaced. Markets depend for their effective functioning on an infrastructure of law to protect property and contract rights, a judicial system to enforce those rights, public institutions to prevent collusion and control monopoly. Property is a legal concept defined and enforced by law and government. Before property, there was only physical possession backed by force. Without law and government, exchange is reduced to the law of the jungle. Primitive forms of money may have preceded government-issued varieties of coin and currency, but the money we utilize today is founded on the productivity, strength, stability and integrity of the entire global political-legal-economic system.

A new paradigm in economic thinking must be founded on a broader, more inclusive perspective. Economy does not exist separate from the social aspirations, cultural values and psychological expectations of human beings. The real source, foundation and determinant of economic activity is the society as a whole. Economic capacity is founded on and determined by political, legal, organizational, educational, social, psychological, cultural and ecological factors and can only be understood when viewed from this wider perspective. Just as human health depends on the functioning of every organ, tissue and system in the body, economic systems depend on the functioning of the society as a whole. Prevailing economic theory, like much of modern medicine, cuts up reality into tiny specialized areas and attempts to deal with them piecemeal. In Medicine, it frequently leads to side effects of treatment more serious than the disease being treated. In Economics it can lead to unintended consequences of enormous magnitude for global society.

Reality is multidimensional and integrated. To be effective, knowledge of that reality must be too. It is always shaped by a multitude of aspects, perspectives, and forces. *Economy, politics, society, and culture are inseparable dimensions of a single integrated reality.* The tendency to condense and compress reality into simplistic formulas is a form of willful ignorance that facilitates quantification, calculation and multiple choice examinations. In the process it conditions the mind to a reductionist mode of thinking blind to the complexity and integral nature of life.

Under the reigning economics paradigm, economy is regarded as being "disembedded" from society, whereas it should be regarded as being an integral and inseparable component of society, which does not and cannot exist outside of a social context. The economy exists to serve the needs of society; society does not exist to serve the needs of the economy as master over society and individuals. A new paradigm in economic thinking needs to be founded on this wider view of the social whole. A true science of economy must be founded on an integrated science of society. Development of a real science of economy will only be possible when economics is viewed as a subset and integral aspect of the larger society of which it is a part.

1.4. Social Potential and Effective Power

The world is beset with problems that appear insoluble largely because we are unconscious of the true extent of the social capacity that has been created and the social potential still waiting to be developed. The limitations of present theory prevent us from seeing the incredible power society has generated for accomplishment in all fields. A new paradigm in thought can provide the intellectual foundations for achieving a fuller and richer social life for humanity than anything now imaginable, if only we are willing to discard the self-imposed limitations of outmoded conceptions, vested interests and dead conventions.[10]

Economics was founded as the dismal science at a time of scarcity. Its mentality and underlying assumptions are still powerfully influenced by social conditions of that period. In spite of the remarkable achievements of the past two centuries, the idea that society has the power to meet the material and social needs of all its citizens has not displaced the earlier idea of scarcity. We still tend to think of economy largely as a win-lose, zero sum game. If the magnitude of the untapped social potential were more widely recognized, then the public would clamor for and demand a better system far more vehemently than it does today. Prevailing economic thought is founded on the Newtonian misconception that economy is a closed physical system consisting of finite resources and limited potential. Conservation of energy and momentum may be valid for the movement of inanimate physical objects, but it is insufficient to circumscribe the limits of living systems and conscious human communities.

The historical record refutes a Malthusian view of economy. Malthus was one of the first to perceive the importance of biophysical constraints. Two hundred years ago, he rightly perceived the threat that rapid population growth would overreach the capacity for food supply based on the system of production and the technology prevalent at that time. The awareness generated by his controversial assertions may well have served as a conscious or subconscious impetus for action. His perception of the problem did not take into account the opening up of vast areas of land in the New World, the application of steam power in agriculture, the adoption of farm machinery to raise land productivity, the spread of irrigation systems, advances in soil agronomy, crop genetics, agricultural research, farmer education and extension services, post-harvest technology and innumerable other innovations. Since then the world's population has multiplied more than seven-fold, but per capita availability and consumption of food have grown even faster. Malthus was not mistaken about the importance of environmental constraints, but he lacked

a wider understanding of the complex factors governing the interaction and interdependence between the human and physical ecologies. The supply of many of the earth's physical resources is limited, but the capacity for improving productivity and effective utilization of those resources through application of knowledge, technology and organization is not. Material substances are limited, but human resourcefulness is not.

> *"It is no longer acceptable for economics to ignore the issue of social power which underlies the entire workings of the economic system."*

Our very conception of what constitutes a resource depends on the application of human intelligence, knowledge and resourcefulness. Human consciousness is the ultimate resource, though it is poorly utilized in its present fragmented state. It is human consciousness that recognizes and adopts material substance and energy for productive purposes. Thus, the second-most common element in the Earth's crust, silicon, was once regarded only as raw material for brick- and glass-making. A few millennia later it became the foundation for semiconductors and fiber optics. Now it is key to building renewable energy infrastructures. Mindless growth fueled by wasteful consumption of material resources already poses existential threats to society and certainly has its limits, but improvements in human welfare and well-being do not. Social progress founded on the continuous development and application of human consciousness and capacity shifts the paradigm from limits to economic growth to unlimited development of human welfare and well-being.

At the same time, it is essential to recognize that the conventional conception in Economics that "value" exists only in relation to human utility is deeply problematic. Human awareness and perception may be needed in order for humanity to consciously harness the powers of nature, but the value of nature can never be adequately captured by the limited perspective of human understanding at any point in time. A new perspective is needed which recognizes that much of what exists and occurs within the biosphere has intrinsic "value" regardless of human intervention or activity. To damage and destroy the biospheric systems and life within them is to destroy the most fundamental source of "value" underpinning human existence.

The physical world and material resources constitute the physical foundation for economy, but new economic value creation in the 21st century is very largely driven by non-material resources—knowledge, information, technology, skill, social energy and social organization—that are not subject to finite limitations. Education, healthcare, financial services, retailing, tourism, transportation and communication and other major components of the tertiary sector now represent 74% of economic activity in OECD countries and 68.5% worldwide.* Even in manufacturing, services such as R&D, accounting, HRD, sales, marketing, product service and disposal often represent more than 50% of the total. Material resources and energy certainly constitute essential inputs for the service sector as they do for others, but

* World Bank database, http://data.worldbank.org/indicator/NV.SRV.TETC.ZS

continuous economic advancement is not strictly or proportionately limited in the manner that Newton's principle of conservation limits the performance of closed physical systems.

The application of mainstream economic theory and policy taps only a small portion of the productive potential of society. Psychologists have found that the average human being utilizes only a small portion of his or her intellectual capacity. More and better education increases the effective utilization of mental capacity. At the same time it broadens mental horizons, raises expectations and fosters creative initiative. It develops and increases the effective utilization of psychological capacity as well. Similarly, new economic thinking has the potential to vastly enhance the security, welfare and well-being generated by economic activity. Any economic system can be enhanced by improving access to affordable, quality education, opportunities for employment, a conducive environment for entrepreneurship, a transparent and fair legal system, access to information and credit, a level playing field in the market, unbiased public policies, equitable income distribution, appropriate pricing and taxation of natural resources and pollution, protection for the global commons, and a wide range of other social variables. Reducing prosperity to a set of econometric equilibrium formulas blinds us to the vast untapped social potential. Can anyone seriously doubt that redirecting the world's 250 trillion plus financial resources from speculative to productive purposes could vastly enhance human welfare in an environmentally sustainable manner? According to recent projections, the world needs to invest about $5–7 trillion per year in sustainable technologies and infrastructure facilities. That is less than the annual reinvestment by the world's largest pension and insurance companies. What better way could these firms invest their resources to reduce uncertainty and ensure security for their shareholders?

Society is an immeasurable reservoir of social potential enriched by developed and undeveloped human endowments and organizational capabilities. Wealth creation, welfare and well-being are a function of human relationships. The greater the development of the individual and the greater the ease, speed, accessibility and facility of coordinated, cooperative harmonious relationships between people and organizations, the greater the productivity, prosperity and cultural enrichment of society as a whole.

Social energy determines the potential, but that potential is rarely approached, except perhaps in times of extreme crisis or highest idealism and solidarity, characteristic of the greatest moments of history. Under normal conditions, society harnesses only a small portion of its energies for productive purposes. Social power is the capacity of the society to direct, organize and utilize that energy for effective action by means of laws, social systems, institutions, knowledge and skills to accomplish social objectives. The wartime mobilization of production gives an indication of how large is the gap between normal social performance and the social potential.

Nor is human and social potential limited to these few factors. Anything that increases the aspiration, freedom, dignity, self-respect, self-confidence, knowledge, skills, values, independent thinking, creativity, innovation and dynamism of the individual is a potential catalyst for greater wealth creation. Anything that fosters greater contact, relationship, trust, confidence, equality, organization and innovation within and between communities is a potential

catalyst for greater wealth creation. At a time when 'buyer beware' was the dominant motto in business, more than a century ago Sears introduced its famed 'satisfaction guaranteed or your money back' as a means to win the trust of suspicious rural mail order customers. Within a decade it grew to become the largest retailer in the world, a position it retained for more than seven decades. Amazon is repeating that feat today by creating a global system that maximizes transparency, choice and confidence.

"The objective of New Economic Theory (NET) is to formulate theoretical and practical knowledge required to maximize economic security, human welfare and individual well-being of all humanity in a manner consistent with universal human rights, cultural diversity and civilizational values."

Today global society possesses unprecedented and ever-expanding power in innumerable forms. But the results generated by that power depend on the actual way in which that power is exercised and distributed in society. The wider the distribution of power, the greater the total power generated and the greater the overall social benefits. Monarchs and autocrats possess greater individual authority than elected officers in modern democracies, but the overall power for accomplishment of the societies they govern is severely limited, because they harness only a miniscule portion of the energy and initiative from their members. Democracy distributes political power widely, so the power of any individual is limited, but the total capacity of the society is very much greater. The same principle applies to the concentration and distribution of economic power. *Extreme concentration of wealth, whether by legal or illegal means, imparts enormous power to a few individuals, but substantially abridges the overall power of the society.*

It is no longer acceptable for economics to ignore the issue of social power which underlies the entire workings of the economic system. Until recently the distribution of power has been regarded by most economists as an issue for study by political scientists and sociologists. The exclusion of power from economic discourse was largely the effort of positivists to insulate mainstream economic thought from contamination by Marxist analysis. This was achieved by strengthening the intellectual boundaries between economics as understood in the capitalistic world and distancing economic analysis from the influence of power processes. Popper's trenchant attack on the non-scientific nature of Marxist thought further aided the narrowing of economics to meet the requirements of scientific rigor. The recent work of economists such as Thomas Piketty on economic inequality, growing awareness of the inextricable relationship between politics and economics, highly visible attention to the influence of money and corporations on elections and public procurement, the legal and political basis for the expanding definition of intellectual property rights, and the impact of regulatory capture on public policy and markets in fields such as finance, energy and pharmaceuticals necessitates restoring the issue of social power to a central place in economic theory.

1.5. Restoring the Subjective Dimension

Modern economies are conscious living systems increasingly fueled by human and social resources that are not subject to inherent material limits. Material resources are consumed in the process of utilization. Non-material resources such as information, knowledge, technology, skill and organization multiply in the very process of being utilized. Human capital and social capital grow in quality, utility and value through usage and experience.

Imitating the 19th century preoccupation of the natural sciences with the objective study of external reality, Economics tends to neglect the subjective dimension of reality which plays such a central role in human life. During the 20th century physicists and biologists largely abandoned this view, but it still remains the guiding philosophy of Economics even today. The argument that subjective factors are too difficult to measure is increasingly challenged by the development of alternative measures and justifies much more serious efforts by mainstream economists to evolve new methods, rather than ignore this essential dimension of reality.

New paradigm thinking in the social sciences can no longer deny the central importance of the subjective dimension of reality nor seek to reduce it to its chemical and nervous physiological constituents. Every great leader knows the enormous importance of subjective factors in human accomplishment, which Tolstoy referred to as the intangible but very powerful 'spirit of the army'. Every great political leader knows that the faith, confidence and determination of a nation's people are a more powerful force for victory than a huge army and modern weaponry, as Washington, Napoleon, Churchill and Gandhi demonstrated by their astonishing achievements against impossible military odds. Every great business leader knows that aspiration, confidence and determination are more important determinants of business success than a company's balance sheet, as Lee Iacocca demonstrated so dramatically by bringing back Chrysler from the brink of bankruptcy in the early 1980s. Every thoughtful student of economics knows the same thing, as US President Roosevelt demonstrated in 1933 when he stopped America's greatest banking crisis by appealing to the American people to redeposit their hard-earned life savings to save a fast-failing financial system.[11] The rapid rise of East Asia after the Second World War, Japan's failure to recover peak economic performance after the asset bubble burst in 1988, and Korea's rapid recovery after the 1998 East Asian Crisis are only explicable when subjective factors of national aspiration are taken into account. Economic theory that does not fully recognize and reflect the central role of subjective factors in economic performance is a relic of 18th century materialistic, mechanistic thinking in an age when the human being is the single most important driver of a more equitable and sustainable future.

1.6. Value-Based Science

The natural and social sciences differ in another significant respect. The quest of natural science is to discover the immutable natural laws governing the world around us. The role of the natural scientist is as impartial, objective observer free from value judgements. In contrast, the notion of immutable Newtonian laws of nature has no place in the social sciences.

The social sciences study the world and behavior of conscious human beings, whose habits and propensities are goal-oriented and at least partially subject to conscious choice. They change over time, undergo voluntary modification and conscious evolution. And yet, the most tenacious commitment to this idea today persists in the social sciences.

All scientific inquiry begins with a study of phenomena as they exist to understand their characteristics, structures and the processes by which they function. Yet this quest is informed by the values, mindsets and contexts of the scientists themselves—from their gender, to race, educational background and location in the world. A fundamental challenge in the social sciences is to discover the social processes by which people meet needs, fulfill aspirations and achieve goals. Impartial knowledge of what pertains is not sufficient. It must necessarily be examined in the light of the values and goals humanity seeks to realize.

Of all the social sciences, Economics has been most strongly influenced by the philosophy of positivism and the influence of Hume, who insisted that science would not retain its credibility if it confused the study of phenomena as they are with the study of what we think they should become. Hume's distinction was powerful: if economics were contaminated with the discourse on values, it could not qualify as science. In order to strengthen the scientific boundaries of the discipline, economics became partly an empirical science and partly a logical science influenced by applied mathematics. In doing so, it was compelled to adopt overly simplified and, in some cases, mythical assumptions and generalizations that lent themselves to quantitative analysis. Over time the distinction between premises and reality has become increasingly obscure, resulting in the illusion that the models actually represent the real world, an error akin to assuming that in vitro laboratory experiments on chemicals and microorganisms are a reliable proxy for human clinical trials in pharmacology.

Philosopher of science Karl Popper cautioned against *misguided naturalism* in the social sciences. He argued that practical impact, not just theoretical understanding, must be considered primary in the social sciences. He emphasized the ethical dimension of social sciences—and called on scientists to accept moral responsibility for social outcomes. It is noteworthy that Adam Smith regarded himself as a moral philosopher, not an economist. Smith was looking for ways to enhance human welfare, not seeking to formulate universal laws of economy true for all nations, all times and all people. While many social scientists have heeded Popper's caution, mainstream economic thinking still attempts to position itself as objective, value-free science while its basic premises are founded on implicit values which are rarely discussed.[12]

Economics needs to become value-conscious. It needs to make explicit the goals, values and premises on which its knowledge is based. The objective of New Economic Theory (NET) is to formulate theoretical and practical knowledge required to maximize economic security, human welfare and individual well-being of all humanity in a manner consistent with universal human rights, cultural diversity and civilizational values and what it will mean to live in harmony with nature. Economic security ensures minimum material needs. Human welfare encompasses a wider range of material and social needs related to safety, health, education, social security. Individual well-being encompasses higher level social,

cultural, psychological and spiritual aspirations for freedom of choice, respect, free association, enjoyment, creative self-expression, individual development and self-realization. And sustainability means achieving this in ways that restore the natural systems on which we depend. The objective of economics is not production for its own sake or economic growth for growth's sake. The goal is not to discover immutable, universal, natural laws of economy based on any existing precedent, model or theory, but to identify the laws and first principles of a social system suitable for promoting global human welfare and well-being.

2. Limitations of Mainstream Economics

The objective of this paper is not a critique of mainstream economic thinking but rather a call to evolve new theory that transcends its limitations. There have been innumerable critiques in recent years identifying the limitations, errors, omissions, flawed logic, inconsistencies and contradictions in prevailing mainstream economic theory.[13] Useful modifications have also been incorporated reflecting insights from sociology, psychology and ecology, but they do not question the core assumptions of mainstream economics.

The following is a partial summary of major problems, limitations and failures of mainstream economic theory:

- It fails to achieve vital social goals—access to essential needs, full employment, equitable income distribution, economic security and welfare for all, true freedom of choice, social justice, social stability and harmony.
- It regards growth as synonymous with rising levels of human welfare when it may actually be the very opposite.
- In an effort to simulate the scientific rigor founded in the natural sciences, it has adopted theoretical and methodological assumptions and overly simplified generalizations that do not conform to the way economies actually work, resulting in a radical gulf between theory and practice. Highly questionable assumptions and models about the functioning and neutrality of markets, rational choice, marginal costs and benefits, equal access to information, additive individual utility functions and profit-maximization are a few well-known examples.[14,15,16,17] In an open letter to the *New York Times*, Paul Krugman has cautioned against mistaking the beauty of mathematical equations for truth.[18]
- It regards society and the environment as externalities rather than as indispensable agents in every productive process.[19] It operates based on a false accounting system that both omits and misrepresents vital information regarding the social and environmental consequences of economic activity, including the economic and social costs of environmental degradation and the true replacement cost of non-renewable resources.
- It regards economic price as a proxy for the real value of transactions to human beings and human welfare.
- It is a-social in the sense that it ignores the existence of society and social processes, neglects the central role of cooperation and trust, and considers fair and just allocation and distribution as non-economic issues.

- It is based on static equilibrium models that are inadequate to describe and explain recurrent patterns of instability, frequent crisis and rapidly evolving social processes that characterize economic systems.
- It is so fixated on monetary values that the physical world becomes invisible and is neglected. Everything becomes substitutable, absolute scarcities do not exist, and the physical world has no impact on the economy. It is based on the implicit assumption of freely available resources and sinks for material and energy that are in conflict with the existence of biophysical constraints. As a result, it is unable to address the issue of biophysical constraints and reconcile the apparent conflict between economic growth and sustainability.[20]
- It fails to reflect the real impact of transactions on society and on the environment, such as the social costs of unemployment, pollution and climate change.
- It is still modeled on 19th century concepts applicable to local and national economies during the Industrial Revolution, disregarding fundamental changes in the principles governing the modern service economy.
- It is founded on invalid premises regarding the rationality of human decision-making that are in direct contradiction to psychological research and historical evidence.
- It is based on naïve assumptions regarding the relationship between the financial and the real economy which have resulted in a reckless, destabilizing and dangerous expansion of speculative financial markets based on tools aptly described by Warren Buffet as 'weapons of financial mass destruction'.
- It fails to properly account for the role of credit and private debt in the economy.[21]
- It is based on a narrow economic concept of efficiency that ignores the social implications and social costs of profit maximization. The efficiency of firms achieved by replacement of workers with machines is not synonymous with the efficiency of society that is faced with rising levels of unemployment, welfare costs, crime and violence.

2.1. Theoretical Problems

These shortcomings are the result of mental and social constructions, implicit assumptions and values which need to be consciously recognized and subject to examination, e.g. the assumption that pricing of resources at the cost of extraction reflects their real value to society or that extending intellectual property rights promotes social justice. These shortcomings arise as a result of more fundamental theoretical limitations:

- *Disciplinary Reductionism:* Economics shares shortcomings common to other disciplines in the social sciences. They are all the product of the attempt to reconstruct the unity of social life by the mechanical assemblage of independent concepts, factors, forces and components which in reality constitute an inseparable unity. Efforts to isolate and insulate the functioning of economic factors from political, legal, technological, social, psychological, cultural and ecological factors are an artificial

abstraction intended to reduce real-world complexity into terms that lend themselves to mathematical modeling. This disciplinary reductionism destroys essential knowledge and obscures underlying assumptions and premises on which prevalent theories are based. More importantly, it diverts attention and discussion away from critical factors that influence economic outcomes.

- *Mathematics:* In an effort to achieve the characteristics of a mathematical science, it resorts to inappropriate use of mathematics and statistical analysis, requiring that almost all types of economics be based on models and produce mathematical proofs in order to be taken seriously. The effort to reduce the rich variability and complexity of social reality into linear equations and relations, simple calculus and central limit theorems leads to conclusions that are logically coherent but most often widely divergent from the underlying social reality they seek to model. There is not a meaningful mathematical solution for all economic problems. Insistence on mathematical rendering as the default mode of expression distorts the selection of subjects for study, leads to the omission of important qualitative factors, and severely hampers the overall progress in economics.
- *Regulation:* Faith in the wisdom of self-regulated markets is a misapplication of principles from the natural sciences. Markets are not self-regulating mechanisms that optimally utilize all available factors of production to achieve full employment and price stability. Today's youth unemployment levels ranging from 25-50% or more are only one of the most conspicuous exceptions. Unregulated markets are neither free, nor fair, nor socially efficient. Left to themselves they tend toward disequilibrium, which is why institutions matter. Disequilibrium takes the form of recurrent systemic crises and systemic instability, which should be regarded as patterns of central concern for analysis in economic theory.
- *Globalization:* Economic theory founded on the primacy of national level markets and policies is inadequate to comprehend economic functioning in an increasingly interconnected and globalized economy. Thus, employment is still modeled at the national level in an age when international and global influences are of growing importance. For example, a truly global framework would necessarily take into account the net impact on global job creation and environmental pollution of shifting production to locations in other countries. The traditional nation-based perspective of employment fails to take into account the enormous positive impact of global economic growth on job creation, because many of those jobs are created in other countries. Jobless growth is a misnomer. When the impact of domestic growth on total employment is taken into account, the most economically advanced countries are actually running a net negative unemployment that is not immediately apparent, because we focus only on jobs created in the domestic economy. High income countries are net job exporters. These jobs, in turn, spur a rise in incomes, soaring levels of consumer demand and demand for more sophisticated technologies produced elsewhere. Thus, the generation of jobs in other countries is a powerful engine for both continuous expansion of the global economy as well as for continuous global job growth. The phenomenon of job exports helps

explain the remarkable fact that total global employment has more than kept pace with population growth and technological development during the past six decades.[22]

- *Social Power:* The mechanistic view of economic systems as a function of inputs and outputs ignores the immense importance of social factors that determine the exercise of power in society, access to resources and the distribution of economic benefits. One example is how social factors impact on economic outcomes, the extension of copyright and patent rights beyond the level needed to encourage innovation results in higher prices to consumers and higher entry barriers for competitors.
- *Evolution:* Rapid evolution is taking place simultaneously in fields such as science, technology, education, organization, law, governance, public awareness, social aspirations and social power. *Economy and society are continuously evolving*, so that static (non-evolutionary) concepts, theories and models based on the industrial economy are of decreasing relevance and utility in a knowledge-based service economy dominated by the financial sector.
- *Concept of Value:* Market prices are not objective, universal measures of value that lead to an optimal allocation of resources. The market accords equal value to life-saving and life-destroying activities, the essential and the trivial, the legal and the criminal, to $100,000 in food grains and $100,000 for a movie actress' dress. Market-determined wage rates do not reflect workers' productivity or generate an equitable distribution of income. Moreover, current theory regards all monetary values as positive, whereas a great many economic activities either result from or contribute to the generation of negative value-added (deducted value), as in the case of the destruction arising from war, industrial pollution and environmental degradation, rising rates of drug use and crime and higher healthcare costs due to chronic unemployment, etc.[23]
- *Rational Markets:* The premise that markets are rational is itself irrational. The recent collapse of global oil prices, the 2008 subprime mortgage crisis and the tripling of prices on NASDAQ before the dot com bubble burst in 2000 are glaring instances.[*]
- *Profit-Maximization:* Short-term profit-maximization by enterprises to create value for executives and shareholders is often at the expense of customers, employees, public welfare and the long-term viability of the firm itself. Profit maximization by financial institutions with depositors' money in the previous decade nearly bankrupted the US financial system and precipitated a global crisis.
- *Measurement of Growth and Human Welfare:* A change in economic measurement is essential in order to escape from the blind logic of insufficient concepts. The performance of the economy cannot be realistically assessed by measuring the rate of change of a few macroeconomic variables. All types of growth are not of equal value. Some types are actually negative in terms of their impact on society and human welfare. Rising incomes of the super-rich, growth resulting from war or a Fukushima-type industrial accident, growth in consumption of alcohol and antidepressants, growth

[*] According to Adair Turner NASDAQ rose from 1500 to around '4500 or 5000' before falling back to 1500 after the bust.

resulting from an upward spiraling of oil or speculative real estate prices, growth in public expenditure due to an increase in criminal prosecutions or rising levels of incarceration in prisons are not of equal economic, social or human value to growth that raises the poorest above the poverty line, growth in public or private investment in education and public health, growth in the construction of new homes and public facilities, or growth in the building of new factories to produce goods and create jobs that improve the quality of human life.

- *Non-Monetarized Sector:* Human welfare is a result of activities that take place in the monetarized sector by exchange of money and the non-monetarized sector. A great many of the most valuable sources of human welfare and well-being, especially those undertaken by families and communities in what is referred to as the core sphere, do not involve exchange of money. So too, many of the greatest threats to welfare and well-being, especially those undertaken by families and communities in what is referred to as the core sphere, are not accounted for in monetary terms. Moreover, the line between these sectors is constantly changing and is impacted by public policies.
- *Disconnecting economy from ecology:* Economics as the discipline of the industrial revolution emerged when there was no evidence that natural resources were finite and that the atmosphere could be altered by human activity. This is why economics has taken nature for granted, assuming that resources are unlimited and natural systems could absorb unlimited amounts of pollution. Once economies are recognized as embedded within ecologies that are themselves being degraded, then it will become necessary to accept that it will be impossible to improve well-being for all in more equitable economies if the costs of resource depletion and environmental degradation keep rising. Restoring the future may well become a driver of innovation and economic development—this is certainly true for the renewable energy revolution, with investments in renewables since 2009 greater every year than those in fossil fuels.
- *Ignoring space:* People live in particular spaces, from large cities to small towns and rural areas. Economic relationships and connections to natural systems are shaped by the way these spaces are configured. Sprawling American cities cost more per individual to keep going, which means they require more finance and resources. European cities are more efficient and equitable. Developing cities are largely divided between a small informal and a large formal sector. Economics has tended to ignore space, and yet has assumed that the large bulk of economic production and consumption in modern economies takes place in cities. Urbanization and industrialization have been seen as the indicators of modernization. However, cities can be designed appropriately or not: they can be inclusive or exclusive, more or less equitable, more or less sustainable, more or less safe, more or less functional for the right kinds of productive activities as opposed to property speculation.

Mainstream Economics consists of a few main theories supported by a patchwork of concepts, theorems and models lacking the common foundation, consistency and integration that

characterize knowledge in the natural sciences. However useful elements of the patchwork may be for shedding light on specific issues and fields of activity, they do not constitute in whole or in part a coherent theory of wealth creation, welfare and well-being. Moreover, they fail to address wider and more fundamental issues that need to be considered in order to place new economic theory on a sound basis.

One response to the inadequacy of mainstream economic theory has been the recent proliferation of alternative theories loosely grouped under the heading "heterodox economics". This group includes development, ecological, evolutionary, post-Keynesian, post-Marxist and numerous other schools of economic thought.[*] Each focuses attention on a dimension of economics that is neglected or misunderstood by mainstream theory. In spite of their legion numbers, mainstream theory entrenched in academic citadels continues to effectively drown out most dissenting viewpoints. This assemblage of alternative models and theories is an important development, but it is not sufficiently comprehensive to replace prevailing orthodoxy. We need theory that integrates complementary aspects of the truth, rather than ignoring or rejecting all dissent as superfluous. We need an integrated framework for the social sciences, similar to what we find in the natural sciences.

3. Objectives of New Economic Theory

The call for new economic theory is based on the premise that the persistence of poverty together with rising levels of unemployment, inequality and ecological degradation reflect the limits of the present conceptual system, rather the practical limits of sustainable human development. A new paradigm in economic thinking is needed to make conscious and explicit the underlying concepts that limit humanity's ability to promote rapid advances in welfare and well-being for all human beings.

Economic theory shapes society by shaping understandings, policies, institutions, values, aspirations and beliefs about what is possible. It also provides implicit justification for the application and distribution of social power and the explicit economic arrangements used to support it. It is still difficult to conceive of what precisely should be the shape of new economic theory, but some of its essential characteristics can certainly be identified.

Economics should be explicitly goal-oriented and value-based. It must shed the poise of ivory-tower scientific objectivity and accept responsibility for the wider social and political consequences of economic activity. The only legitimate goal of economic theory is to maximize the welfare and well-being of all human beings. The validity of theory should be judged based on its efficacy in achieving these goals. It should be based on recognition of the true value of human beings as the most precious and perishable of all resources and the source of all creativity and innovation. It should be founded on a global ethic that seeks to maximize the development of human capacities both for their contribution to human welfare and to our sense of fulfilment as productive human beings.

[*] Joanilio Rodolpho Teixeira, et al., presentation on "Foundations of Economics as a Science: Hetherodox View And Critical Approach" at XIII International Colloquium, organized by Centre for African, Asian and Latin American Studies (CEsA), Research in Social Sciences and Management (CSG) and Lisbon School of Economics and Management (ISEG) of the University of Lisbon, May 11-13, 2016.

The objective of economic activity should be sustainable security, welfare and well-being of all human beings, not merely growth and not merely prosperity for a minority of people or some countries.

- NET must include the generation of wealth as a stock which empowers and provides security, welfare as a flow, and well-being as a status which depends on the interaction between intrinsic and extrinsic factors.
- Human welfare and well-being are products of the whole society, of which security, governance, economy, and culture are inseparable parts. They are the product of both monetarized and non-monetarized activities. They are also closely related to the distribution of social power. Social power widely distributed is prosperity. Social power is the distribution system for prosperity.
- All human activity takes place within an environment which includes the action and interaction of physical, social, mental and cultural factors and this environment undergoes a continuous process of evolution. Therefore, the theory must take into account the impact, characteristics and evolution of the environment.

4. Axiological Foundations of NET

NET needs to replace the implicit values of current theory, which often favor specific classes and activities in the guise of freedom and impartiality, with explicit affirmation of values that promote the equitable development of all human beings. Among these, the implicit power exercised by money over public policies and the distribution of benefits in democratic society needs to be fully exposed. *As freedom is a sacred value according to current democratic political theory, equality should be explicitly recognized as a sacred value by new economic theory. The institution of democracy has been conceived as a means to promote individual freedom, though in practice it too often sacrifices real freedom to the tyranny of a majority, an electoral minority or a plutocratic elite. NET should provide the theoretical framework and environmental policies needed to make markets effective instruments for achieving real social equality. Political economy needs to be restored to its rightful position as the arbiter of economic outcomes.*

Values express intention and commitment, but they are not merely utopian ideals or ethical principles. They represent the highest abstract mental formulations of life principles with immense power for practical accomplishment. They represent the quintessence of humanity's acquired wisdom regarding the necessary foundations for human survival, growth, development and evolution.

NET will need to examine the fundamental values on which economic thought is based. It will need to make explicit the values it consciously seeks to promote. It will also need to recognize the tensions and apparent contradictions between values and explain how they can be reconciled in practice.

NET should be based on universally recognized human values, including

1. Respect for Humanity – the inestimable value and unlimited developmental potential of the human being. Human welfare and well-being are the central objective. The development of human capabilities, commonly referred to in economic jargon as Human Capital, is the most precious and indispensable resource for achieving it.
2. Freedom of choice – maximum individual freedom for initiative and choice compatible with the welfare and well-being of the entire collective.
3. Economic rights – the inherent right of every human being to economic security, welfare and well-being.
4. Equity & Fairness – equal protection of rights and equal opportunity for all.
5. Inclusiveness – economic security and welfare for all human beings.
6. Sustainability – protection of the environment, restoring the natural systems we depend on, and ensuring the equal rights of future generations. The gradual emergence of a consensus among countries supporting the UN's value-laden SDGs signifies a growing acceptance of the essentiality of values in economics and other fields of social life, especially the value of sustainability.
7. Peace and social stability – an economy that promotes peace, stability and social harmony.
8. Natural Rights – Natural systems must be seen as benefitting all human and non-human beings in the continuous creative unfolding of evolution.
9. Social Rights – So too, the past achievements of humanity belong to humanity as a whole and their benefits should accrue to all.

5. Epistemological Foundations of NET

New economic theory requires a change in conception regarding the nature of the reality we seek to understand and appropriate ways of knowing it. NET must be founded on an epistemology that more fully encompasses and accurately reflects the full spectrum, multi-dimensional complexity, organic vitality, and evolutionary character of social reality.

5.1. Transdisciplinarity

New theory should abandon the mechanistic, reductionist view of the economy as a machine and replace it with a conception of the economy as a complex, living, and continuously evolving social network of human relationships capable of endless development and enrichment. NET needs to be based on the premise that economy is an inseparable part of a greater whole that encompasses all fields of knowledge and social activity. The health and performance of each part depend on our knowledge and understanding of the principles and processes governing the performance of the whole social organism as well as the

interdependence of its parts. Economic theory and policy need to be founded on a knowledge of the principles and processes that guide and direct social awareness, aspirations and values; the release of social energies and initiative; the organization of social power that channels these energies; and the attitudes and skills which convert the organized energies into tangible benefits for society. Transdisciplinarity is a demanding form of knowledge integration that examines underlying social processes common to all fields as well as the capacity to reflect on reality from the perspectives of different stakeholders, generations and cultures, rather than a single, absolute, 'objective' standard.[24]

5.2. Multidisciplinarity

Great economic accomplishments have always been spurred by significant development of non-economic forces and factors. New theory must integrate economy with all other fields of social life. It must break down the arbitrary divisions that presently divide the social sciences and replace the concept of externalities with a growing awareness of the complex nexus of political, legal, commercial, organizational, technological, social, cultural, and psychological factors that determine economic performance and results. Rather than seeking to isolate and insulate economy from other social factors, NET needs to identify and make explicit all the factors which influence economic performance in order to identify the inherent weaknesses and limitations in political, legal, economic, educational and social policies that constrain the development of human welfare and well-being. The enabling and limiting conditions include geography and physical environment, peace and security, political and social freedom, stable democratic government, conducive and transparent legal framework and implementation, effective and dynamic public administration—rapid, transparent decision-making, public policies for ease of doing business, physical infrastructure for transport and communication, levels of education and training, social values and work ethic.

5.3. Complexity

Society is a complex living organism in which all its component elements are interlinked, interdependent and integrated. Systems thinking has made important contributions to our understanding of complex systems and functioning by providing insights into the dynamics and patterns of interaction between innumerable nodes of activity. A reductionist scientific method is inappropriate for holistic analysis of evolutionary systems of which humanity is an integral part.[25] Complex problems and systems result from networks of multiple interacting causes that cannot be individually distinguished. They must be addressed as entire systems, rather than as piecemeal. They are such that small inputs may result in disproportionate effects. The problems they present cannot be solved once and for ever, but require to be systematically managed and typically any intervention merges into new problems as a result of the interventions dealing with them.[26] Insight into the behavior of complex systems has helped unravel the wide fluctuations and unpredictability that characterize the performance of financial and other markets. It has helped decode the network effects that lead to the concentration of power among the largest nodes in a network. It has also enhanced our understanding of the impact of economic activity on the environment. At the same time, caution is required to

avoid the tendency of the material sciences to reduce our understanding of complex human processes to mechanistic algorithms capable of wreaking havoc on human social systems, as computer trading algorithms have done in recent times.

5.4. Subjective Dimension

Our conception of knowledge needs to fully recognize the central importance of subjective psychological and social factors in determining social outcomes. Human aspirations, perceptions, concepts, attitudes, beliefs and values are fundamental determinants of how people and social systems function. They govern the release and direction of human energies and its conversion into social power. The structure and functioning of social institutions are a product and expression of these subjective factors.

> *"There is no inherent limit to the potential of human resourcefulness and social organization. Thus, there is no inherent limit to human development."*

5.5. Uncertainty

Economics was founded at a time dominated by the search for Newtonian, deterministic principles governing a world ruled by immutable laws and equilibrium equations. Today it still clings to static concepts of equilibrium and certainty, while mainstream science has evolved towards a less deterministic, more creative perspective. New theory needs to reexamine the concepts of certainty and finite limitation implicit in prevailing theory. It needs to recognize the central quest of human beings for security, the inherent limits to certainty in a rapidly evolving society, and the relationship between uncertainty and creativity, which is the source of continuous innovation and potentially unlimited human development.[27]

6. Ontological Foundations of NET

New theory needs to challenge fundamental concepts and premises regarding the nature of social and economic reality.

6.1. Relationship is Wealth

Human accomplishment is the result of interactions, relationship and collaboration among individuals, organizations and groups. Wealth creation, knowledge generation, discovery, invention, and governance are a few of its expressions. The capacity for accomplishment is related to the number, speed, frequency, quality and intensity of these interactions. Wider geographic inclusion, greater speed of communication and transportation, systems and organizational mechanisms that facilitate and support, knowledge and skills that enhance quality and convenience, shared understanding and values, a sense of identification and belonging are among the many factors that increase the human social capacity for accomplishment. Each of these factors must find a place in NET.

6.2. Social Organization

Organization is an inherent capacity of the human mind to arrange people, objects, ideas, processes and activities in an orderly manner capable of multiplying their productivity and reducing waste. Organization of materials and processes is the basis for remarkable technological advances. Organization of people, groups and social processes is the basis for equally remarkable advances in all fields of social life—from trade, production and banking to franchising, just-in-time inventory, global supply chain management, credit cards, electronic banking, Internet, e-commerce, social networks, the sharing economy (e.g. Uber, Airbnb) and the emerging Internet of Things.

Society is a complex social organization capable of directing and converting that energy into effective power to maximize human welfare and well-being. The social organization is a physical arrangement or mechanical system. Society is a living system and its organization is alive, conscious, dynamic and evolving. It is capable of self-organization, self-multiplication and evolution. Our conception of society must recognize the dynamic, adaptive and creative powers of organization. The objectives of NET can best be met by a social organization that enables each individual human being to fully develop and express his individual capacities and endowments as members of a social system that promotes maximum synergy, cooperation and harmony between individuals, communities, nations and humanity as a whole.[28]

6.3. Role of the Individual

Society is the macrocosm. The individual is the microcosm. Society is not merely an aggregate of autonomous individuals. Economy is not merely an impersonal system operating mechanically according to universal laws. Economic performance is not merely the result of the average behavior of an economy's participating members. Society is populated with millions of conscious individuals capable of unique initiatives. The individual as leader, entrepreneur, explorer, pioneer, original thinker and creative artist is the catalyst and source of social innovation and creativity. The actions of a single individual can radically impact economic performance, as the return of Steve Jobs to an ailing Apple Computers in 1996 after a 12-year hiatus led within another dozen years to Apple's emergence as the most valuable company in the world. Social theory focused exclusively on the collective as an aggregate of individuals fails to take into account the creative role of the individual in the evolution of the collective as well as the role of the collective in the development of its individual members. Effective social theory must be founded on an understanding of the complementary roles played by the individual and the collective in social development and evolution and provide insights into how to reconcile individual freedom and collective well-being.[29]

6.4. Social Process

Society evolves by the growth of consciousness and organization. It releases Energy for accomplishment by seeking to continuously raise its level of awareness, understanding, decision-making, and determination to act. It converts that energy into a directed Force for accomplishment by means of the values, goals, objectives and plans it pursues. It transforms the force into Power through the continuous development and improvement of organizational

structures, systems and activities. The quality of the knowledge, skills and attitudes of its individual members determines the results achieved by its activity.

6.5. Human and Social Capabilities

The potential performance of the society ultimately depends on the level of development of its individual members and its social organization, i.e. human capital and social capital. Human capital depends on the knowledge, skills, attitudes, values, character and personality of individuals. Social capital refers to the development of relationships, institutions and networks that produce collaborative attitudes, shared norms, shared values, mutual understanding and trust. It includes the structures that distribute authority and coordinate specialized activities, the standards and systems applied for communication, execution and monitoring of performance, and the values that characterize the functioning of the organization at each level and in each field of its expression. Human and social capital are unique in that they possess the ability to mobilize and utilize the other forms of capital to enhance performance. There is no inherent limit to the potential of human resourcefulness and social organization. Thus, there is no inherent limit to human development.

6.6. Markets as Networking Device

Language is a networking device to facilitate communication between people. Similarly, markets are networking devices designed to facilitate contact and mutually beneficial transactions. Village gatherings and regional fairs have long since given way to national and global markets operating in physical space and cyberspace. Their size and speed have grown exponentially, but the principles governing their operations remain the same. The wider the market, the more the number of participants, the greater the capacity and diversity of the products and services it offers, the greater the trust, confidence, quality, ease and speed of the transactions it facilitates, the greater will be the overall contribution of the market to wealth creation. Like all social institutions, markets function on the basis of trust. The greater the trustworthiness of the parties, systems, products and services involved, the greater the productive power of the market.

6.7. Regulation

The efficacy of any social organization depends on its capacity to release and channel human energy for productive purposes. That is only possible when sufficient freedom and opportunity are provided to all members of society to develop and express their innate potential within a structured framework that harmonizes private self-interest with public good. Freedom for initiative and regulation to ensure cooperation and fairness go hand in hand. The notion that markets are primarily a field for competition is a social construction borrowed from biological evolutionary theory that grossly distorts the nature of markets by reducing economic activity to a zero-sum game. The reality is that economy is a collaborative enterprise of the entire society in which buyers and sellers, producers and suppliers, bankers and intermediaries all collaborate to achieve a power and efficiency that none can otherwise achieve. Law and regulation are intended to provide a level playing field for all parties to realize their maximum potential. Freedom and authority are complementary values. Both

individual freedom and good governance are essential conditions for effective markets. In the absence of freedom, markets are reduced to commercial monopolies or labyrinthine government bureaucracies that inhibit human initiative and creativity. In the absence of effective regulatory mechanisms, the functioning of markets is determined by the relative power of the parties involved. The larger, stronger, more informed and better organized dominate over the rest and pursue their individual benefit at the expense of others and the general welfare. Without effective regulation, economic power becomes increasingly concentrated, competition is reduced and the incentives for efficiency and innovation are reduced. Like other social institutions, the capacity of markets to serve social objectives depends on the values, laws, rules and procedures by which they function and the authority of the agencies responsible for their governance.

6.8. Law

Law is an expression of the codified public conscience regarding the forms and norms of conduct that are deemed socially acceptable. Since law has evolved out of past precedent, it largely reflects the prevailing values and norms of society in the past, rather than the values and norms toward which it is evolving. Since law is the result of political processes, it largely reflects how power has been enjoyed and distributed in the past, rather than how it should be distributed based on constitutional rights. Law today is more largely a reflection of past values and the past distribution of social power, rather than that which is optimal for achievement of social objectives. The evolution of property law is one of the reasons for the increasing concentration of wealth in the USA and other countries. Neoclassical economics tends to accept prevailing property laws as given. NET should include the exploration of legal factors with the potential to modify the formal institutional frameworks in which economic agents operate.[30] Research reported by the *Economist* challenges the evidence that current patent laws promote investment and innovation as intended.[31] It cites evidence that prevailing copyright and patent laws constrain competition and artificially inflate prices and profits. Modification of law represents an important instrument for improving the outcomes of the economic system. A deeper understanding of private property rights will make it possible to establish more secure, equitable and prosperous foundations for the market economy.

6.9. Money

Like language and markets, money is fundamentally a networking tool which facilitates transactions between different people, organizations, points in time and places in space. *The value of money arises not from its intrinsic worth, but rather from its acceptance as a symbol of value by other people.* The more widely it is accepted, trusted and respected, the greater its value. Ultimately the value of money depends on the accumulated past achievements, present productive capacities and future productive potentials of the society in which it is used. Like the power of knowledge, the value of money also depends on its distribution in society. The wider the distribution, the greater the capacity of society to utilize it productively to enhance social capacity and social benefits. The higher the level of wealth and income inequality, the lower the utility of money for promoting the welfare and well-being of citizens. NET must

include the exploration of alternative forms of organization of property and money, as they are fluid and subject to human invention.

> *"Achieving full employment is not difficult. It is only difficult to achieve under the current theoretical framework that promotes mindless consumption, dissipation and wastefulness as economically sound."*

6.10. Price

Price is a creative organizational mechanism for assigning an economic value to dissimilar economic goods and services so they can be freely exchanged for one another through the medium of money. In the dismal ages before the capacity and responsibility of government for the welfare of people were widely recognized in the modern era, price served as an impersonal mechanism for the allocation of scarce economic goods. Today humanity no longer lacks the means to promote the welfare and well-being of all its members. Today government can no longer shirk the responsibility for maximizing that welfare. Long ago, microeconomic theorists defined the ideal conditions under which price would allocate scarce resources most effectively. Those conditions have rarely been met in practice either in the past or the present. It is the responsibility of government to create a policy environment that counters the tendency toward monopolistic control of markets on the one hand and the unjust allocation of economic goods without regard for human values on the other.

6.11. Measurement

New theory needs to be based on measures of value that more truly reflect the real and sustainable contribution of human activity to human welfare and well-being. It should also adopt measures of wealth that reflect the true contribution of activities to wealth generation and the net loss of wealth (negative value) resulting from depletion and pollution of the natural environment. It needs to distinguish between wealth as a stock and welfare as a flow.

6.12. Non-Monetarized Sector

More than half of all useful work undertaken is unpaid and falls outside the monetarized sector. Much of this work contributes to the bonding and stability of society and has far greater importance than its mere practical utility. New theory should broaden notions of wealth and well-being to incorporate the large non-monetarized sector, which is ignored by present theory but plays such a central role in determining our real freedom, comfort, social security, human relations, and the quality of life.[32]

6.13. Social Power

Economic theory is not merely about production, distribution and wealth creation. Economic conceptions contribute to and are impacted by the distribution of power in society.

NET must make explicit the impact of various forms of social power on the laws, institutions, public policies and private practices impacting economic activities and human welfare. All economics is really Political Economy, as the study of the economics of states was originally termed. Economics cannot be divorced or considered separately from politics. The functioning of economy is powerfully influenced by the exercise of political power and social influence and vice versa. Social power is the capacity to accomplish work in society.

Money, political influence, popularity, media research, transport, communication, knowledge, research capacity are all forms of social power which are interconvertible. The interrelationship between political and economic power is of particular relevance to the functioning of economies because it results in a skewing of policies in favor of some parties to the detriment of others and the general public, leading to monopolistic advantages and public corruption. Democracy today contains a large measure of plutocracy. Property rights, subsidies, tax rates, incentives, zoning laws, patent and copyright, corruption and crime are all strongly influenced by the exercise of social power. The debate regarding free markets and regulation is really a struggle for power—money power and political influence vs. power to promote social welfare. Human rights, law and public policy are powerful determinants of the distribution of social power and therefore of economic benefits.

Historical evidence confirms that the wider the distribution of power in society, the greater is the overall capacity of the society to achieve its objectives. The most powerful monarchs in history possessed far greater individual power than democratically elected leaders today, but no monarch in history can rival the overall capacity of modern societies to promote the welfare and well-being of their citizens. Universal education enhances the mental power of the people to take informed, effective decisions. Fair access to the use of social systems enhances the organizational capacity of the people. Access to remunerative employment ensures people the opportunity to exercise their talents and capacities for productive purposes and personal benefit. Deprivation in all its forms limits the power of the individual and by extension the overall power of society to accomplish. As freedom of choice is an essential condition for the fullest development and expression of individual potentials, equitable distribution of social power is the essential condition for the fullest development and expression of social potentials.

Money is a form of social power with a unique characteristic. It lends itself more readily than any other form to conversion from one form of power into another. Money generates access to political power through elections and political donations, to the best quality education and healthcare, to all forms of entertainment, to the most advanced forms of communication and transportation, etc. This characteristic makes money a very effective means for the wider distribution of social power. For the same reason, money also represents one of the greatest obstacles to the equitable distribution of social power. For those who possess wealth can utilize it to seize political power or social influence or convert them into greater wealth. The increasing domination of democratic politics by money through both legal and illegal means represents one of the greatest threats to democratic freedoms today.

6.14. Employment

NET needs to take an unequivocal position on the place of employment in economic theory. Employment in a market economy is the economic equivalent of the right to vote in a democratic polity. As universal suffrage is the basis for political democracy, employment is the basis for economic democracy. The principle of democratic rights was enshrined long ago, but the actual extension of democratic rights to women, blacks, the poor and minorities was achieved as the result of a long, difficult and violent struggle. They were not extended because they were possible or practical, but because they were deemed fundamental and inviolable. The same is true of the right to employment. It must be recognized as a fundamental human right. Then it becomes the responsibility of governments to ensure it is achieved. Democracies which protect the right to property have an equal obligation to protect the opportunity for the young to acquire gainful employment, which is essential for social survival in a modern economic system where government regulates and controls so many aspects of life. Achieving full employment is not difficult. It is only difficult to achieve under the current theoretical framework that promotes mindless consumption, dissipation and wastefulness as economically sound, while standing by helplessly in the face of social injustice and economic exploitation. The current policy framework which incentivizes capital investment while taxing payroll is a clear example of an in-built policy bias that undermines human security and well-being.

6.15. Public Goods

The most important failure of markets has been with respect to management of the domestic environment and global commons as a public good. A century ago, capitalism acquired a social conscience to meet the perceived threat of socialism and arrived at a balance between public and private good that resulted in unprecedented prosperity in OECD countries. The collapse of communism symbolized by the fall of the Berlin Wall in 1989 coincided with a resurgence of neo-liberal conceptions that have become a root cause of the current crises. New theory must restore the balance that optimizes the welfare and economic security of all, while giving scope for the creative contributions of each. There is a need to develop a whole range of hybrid goods which, like insurance, serve simultaneously the interests of both the private citizen and society-at-large.

6.16. Global Governance

The entire world economy is increasingly operating as a single, integrated market and world system. Yet economic theory is still largely predicated on concepts, theories, models, policies and actions for application at the national level. This has left a wild frontier of unregulated and often lawless activity at the international level. It has also led to a resurgence of a previously discredited neoliberalism, which serves as an obstacle both to effective global regulation and the development of effective economic thinking. The centering of theory on national level concepts, institutions and policies aggravates the division of humanity into competing nations playing a zero-sum game. Globally, relevant economic theory is needed as a foundation for the establishment of effective institutions and policies capable of maximizing

welfare and well-being for all humanity. NET should strive to encompass the full range of relevant perspectives from the local to the global level.

6.17. Evolution of Global Society

Human development throughout the ages has been mostly a subconscious process of experimentation and trial and error learning gradually organized, developed and refined into effective knowledge, skills, values, rules, strategies, systems, organizations, policies, processes and activities which then evolved over time. The aim of the social sciences is to make conscious the underlying evolutionary process that has governed human development up to now and to codify that knowledge in a form that will facilitate and accelerate the development of new institutions, policies and activities capable of enhancing the organization of global society for the betterment of all human beings. The effort to consciously formulate new economic theory represents an important step in that direction.

6.18. Ecology

The full development of human potential and social power is only possible and sustainable when humanity re-establishes a positive, harmonious relationship with all of life and the physical environment. The mindless overexploitation of resource, environmental degradation, pollution and climatic instability are rooted in the prevailing consciousness and mindset of modern society derived from a mechanistic, reductionist, utilitarian and egoistic viewpoint and values that increasingly isolate the individual from other people and society and isolate the human collective from the wider world in which we live. Relationship is the foundation for all forms of wealth creation—physical, social, economic, intellectual, artistic and spiritual. Reconnecting with other people, social purpose, the environment and our own spiritual being based on values of respect, harmony, beauty and self-giving are the means and precondition for achieving sustainable human welfare and well-being for all.

7. NET and Pedagogy

The rapidly expanding student movement demanding pluralism in economics education marks an important step beyond the prevailing orthodoxy towards a more open-minded, inclusive and integrated study of the subject.[33,*] A change in content is not enough. It must also be accompanied by a change in pedagogy and thinking. In order to realize and practice new theory, the paradigm must also be taught in an open way that encourages critical thinking and innovative problem-solving. It would be contradictory to claim that social reality is an open system and then continue to teach in the didactic prescriptive way that has been conducive to mainstream modelling. It would be counter-productive to the development of new theory and also to the creation of the kinds of citizens that express the best of what NET is seeking to achieve.

Beyond that, there must also be a shift in the modes of thinking developed through the educational system. Today the discipline of Economics is still dominated by analytic thinking that divides and subdivides reality into smaller parts and regards each part as a whole in

[*] See Rethinking Economics, http://www.rethinkeconomics.org/about/

itself. Specializations continue to proliferate, resulting in more and more experts who know less and less about the wider economic, political, social and ecological reality within which they operate. The growing adoption of systems thinking seeks to compensate for reductionism by focusing on the interconnections and interdependencies between the parts, but in practice it often reduces complex social reality to mechanistic models or, overwhelmed by the complexity it seeks to represent, it shifts the emphasis from theoretical understanding to analysis of data as the primary source of knowledge. New economic and social theory will require conscious efforts to develop more organic, integrated modes of thinking than those prevalent in education today.[34] This is a challenge not only for economics but one applicable to all the social sciences and higher education in general.

8. Conclusion

The purpose of any social system is to effectively release and channel the energies of the population to achieve socially desirable goals. Economy is one of the most fundamental and essential of those systems. No matter how great the achievements of modern society, the present system certainly does not fully utilize the energies and capabilities of its people to maximize the welfare and well-being of all citizens. In future we can and must do better.

A new conceptual framework is urgently needed to expose the fallacies in prevailing theory and project an alternative conception attuned to the realities of the 21st century and the welfare of all humanity. Alternative views on economic theory and practice have been surfacing for decades, but until recently they have been shut out, rejected or dismissed by mainstream orthodox economists of different schools, because they challenge the fundamental assumptions on which all mainstream economic thought and prevailing economic policy are based. Today the situation is different. Authoritative alternative views of economy based on hard facts and compelling arguments are now gaining serious attention, but they still remain largely off-campus, off-camera, and off the radar of public policy and decision-makers.

New thinking—new economic theory—has the power to affect a rapid and radical change to a new economy that

- Maximizes human welfare and well-being instead of limitless consumption and unregulated economic growth for their own sake;
- Perceives people as the most precious resource and development of all forms of human and social capacities as the most important form of productive capital;
- Ensures employment opportunities and meaningful occupation for all, including both youth and the increasingly healthy and active elderly populations;
- Regulates the global casino of financial speculation that currently destabilizes economies and impoverishes people;
- Manages the world's resources in a sustainable manner for both present and future generations;

- Promotes a more equitable distribution of income within the constraints imposed by the planet's resources;
- Resolves the apparent contradiction between human welfare and ecological sustainability by shifting the focus from unlimited, wasteful, material consumption based on energy and material-intensive technologies to maximum security, welfare, well-being and developmental opportunities for people.

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