



NOTES FOR A PLANETARY ECONOMY A Values-Based System

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The Back Story

The world is in crisis on every front. There are environmental, social and political problems all underpinned by an economic system that skews the distribution of wealth toward the already wealthy while depriving the majority. That system is itself in meltdown and all the king's horses and all the king's men cannot seem to figure out how to put it back together again. Alternative ideas put forward under the banner of ecological economics attempt to address one aspect or other of the problem but do not alter substantially the system. Tinkering around the edges is not enough to bring about a transformation of people's relationship to the environment and to each other.

Since the experts seem not to have a clue it's anyone's guess and fools rush in where angels fear to tread. Without any background or training in economics and little facility with figures, I venture to offer these musings on a possible scenario. Zen master Shunryu Suzuki maintains that being unburdened with expertise, offers a distinct advantage -- in the beginner's mind there are many possibilities, in the expert's mind there are few. Bearing in mind also the dictum attributed to Einstein that everything should be made as simple as possible, but not simpler, let us strip matters down to their essence and go from there.

The prevailing idea of wealth is based on material considerations centered on the production, consumption and accumulation of goods and services. Oil- and mineral-rich nations for example are afforded an enviable advantage derived purely from the accident of their geology. No account is taken of the destruction of the environment caused by the extraction process. Money, originally a token symbol to facilitate trading has become itself a commodity, the supply of which has been made scarce, depriving billions of access to essentials and condemning them to a meager subsistence.

Corporations whose sole responsibility is to make a profit, speculate on perturbations to the system like disasters, weather events and crop failures which affect supply, inflating prices out of the reach of the poor. A perception of scarcity and limited resources, whether real or induced, creates fear, leading to greed, strife and cut-throat competition. It is a zero-sum game, winner-take-all, a volatility exemplified in cycles of boom and bust. The free market is much touted for its efficiency but is this any way to run an economy? It is akin to a householder betting their wages on the horses and the ruinous effect that has on the family, yet the more races run and money bet, the better the economy.

In the end, those gambling in Las Vegas lose more than they gain. As a society, we are gambling – with our big banks, with our nuclear power facilities, with our planet. As in Las Vegas, the lucky few – the bankers that put our economy at risk and the owners of energy companies that put our planet at risk – may walk off with a mint. But *on average* and *almost certainly*, we as a society, like all gamblers, will lose.

- Joseph Stiglitz¹

While material wealth contributes to a high standard of living for some, there are other elements necessary for a good life, some tangible, others not. These might include clean

¹ "Gambling with the Planet," Project Syndicate <http://www.project-syndicate.org/commentary/stiglitz137/English>

air and water, adequate healthcare, political agency, access to information and freedom of expression. A way to measure these and assign some relative value to each would seem to generate a more accurate indication of prosperity. Material-based wealth is limited, finite and one day will run out. The supply of precious metals is not enough on which a world economy can be built. The real, and acknowledged, scarcity puts an arbitrary cap on global prosperity leading governments to abandon first the gold then the silver standards in favor of fiat currency. But then paper currency has its own limitations.²

Harking back to bygone days when bartering was replaced by the more convenient and fungible form of tokens that became money, economic reformers have put forward many proposals to adjust currency systems to reflect more equitable trade-offs. We have long passed the stage where our needs were simple, supplied by our immediate environment or met by itinerant traders. Our supply chains have become immensely complex and the monetary system behind it even more so to the point where the commodity that money itself has become is sliced, diced and packaged for different markets. The money traders have become too clever by half and have rendered money meaningless, devoid of any connection to real value, ergo the current economic collapse.

The current economic structures are based on a wrong assumption. Wealth is not created; wealth is. Monetary systems do not create wealth but exist solely to control it. A new way has to be found to count wealth and manage it where it is not detrimentally accumulated at the expense of the environment which gave rise to it and of many who have to go without.

Although the market economy is founded upon material wealth, there are unspoken values that come into play. Unfortunately, these are mostly negative, disruptive and inimical to the common good. Greed, acquisitiveness, selfishness, callousness, accumulation, one-upmanship, and smarts at someone else's expense are the hidden fear-based values at the center. The Dow Jones Industrial Average and similar indices derive more from investors' perceptions than from actual economic performance. What currently obtains then is a value-based economy, but a negative one. Why should we not replace implicit negative values with explicit positive ones? These negative values are the only real cost, to the environment and to human well-being.

² Ten billion dollars in, say, 100-dollar notes, stacked one on top of the other would weigh about 110 tons and take up about 100 large storage pallets. According to [Jack Weatherford](#), an anthropologist and the author of "[The History of Money](#)," the difficulties of securely storing large stockpiles of money were evident from the beginning of civilization. Some of the first metal coins, a mixture of silver and gold, were minted during the reign of Croesus, who ruled Lydia in modern Turkey from 560-546 B.C. But as Croesus's wealth piled up in his palace in the capital, Sardis, "it attracted the interest of the Persians right next door and all the money was taken," said Professor Weatherford.

In the 20th century, Sultan Said bin Taimur of Oman, father of Oman's current leader, encountered yet another problem. There was no developed banking system he trusted, when his country began to earn lucrative oil revenues. He piled up hard currency like British pounds in his palace in Muscat, but rats began to gnaw at it. Seeing the family legacy diminishing may have been a reason his son, the current sultan, precipitated a coup and toppled his father in 1970. "That is a problem you have with paper money," Mr. Weatherford said. "Insects, rats and other animals gnaw at it." <http://www.nytimes.com/2011/03/13/weekinreview/13cash.html>

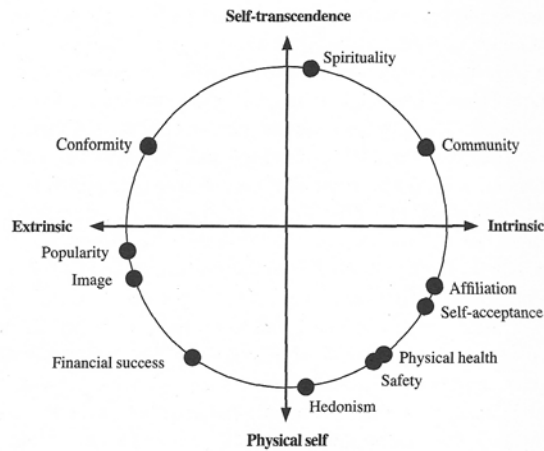


Figure 1
Circumplex model of values, based upon a study examining how 1,800 students from 15 nations rated the importance of a variety of life goals (Re-printed from: Grouzet et al., 2005 © American Psychological Association)

Figure 1. Values

Values are the result of cognition; shifts in awareness result in reassignment of value. There is no limit to the imagination and to aspirations so a value-based economy is only constrained by environmental limits. While values can be subjective, there are underlying values that are universal and can be agreed upon (Fig. 1). Trust, confidence and respect among the world's peoples are the primary values upon which a new planetary economy will be built. If nothing else, globalization has demonstrated how interdependent we are and how suicidal it would be for any one group to arrogate power and resources to itself. Climate change and rising sea levels and a nuclear meltdown in Fukushima affect everyone.

Conventionally, wealth has been measured by GDP, but this index is grossly inaccurate and inadequate as the metrics do not include externalities; assets and activities in the non-monetary and informal economies are ignored. Nobel economists, Joseph Stiglitz and Amartya Sen, have called on world leaders to move away from a purely economic concept of gross domestic product to include wellbeing and sustainability.³ Australia, Britain, Canada and France are currently exploring this. Bhutan has incorporated a Gross National Happiness Index into its constitution.⁴ A number of alternative measurements such as the Index of Sustainable Economic Welfare and Genuine Progress Indicator have been devised to address the imbalance. Each seems to capture some significant aspect of human well-being so a logical next step would be to combine features of all in one grand index we could call **Net Planetary Value**, the sum total of values.

Unlike other indices which are policy instruments to guide and shape public and private sector planning, the NPV would become the fountainhead, structure and process of a new world economy. It would involve doing away with money, an entirely radical approach. NPV while signifying a revolutionary New Planetary Vision can be applied incrementally and organically, leaving political, governmental and social structures intact until they recognize the benefits to their self-interest and opt to integrate

³ <http://www.stiglitz-sen-fitoussi.fr/en/index.htm>

⁴ <http://www.grossnationalhappiness.com>

themselves into the system. 100% compliance would be optimal but not essential for the system to work. Managed well, the transition could prove seamless and minimally disruptive.

The Basics

Taken as a whole system, the earth represents our total fixed assets (Fig. 2). This is what we have to work with. It is a relatively closed system, with incoming solar radiation as the energy that drives it, lunar gravitational pull, some heat loss and incidental meteorite intrusion. Plant life is the machinery which converts solar energy into usable form for the rest of the biome. The entire food chain depends on plants which as well regulate atmospheric gases, provide habitat and are a source of raw materials, most notably the fossil fuels which have made modern life possible and ironically have precipitated the current crisis. Absent human disruption, plant cycles are infinitely renewable. Chloroplast-bearing organisms therefore must hold primary value across all indexes and producers⁵ of plant-based food likewise.



Figure 2. NPV balance.

As with ecological economics, a values-based system recognizes that the economy is a subsidiary of the environment and not the other way around as is currently assumed. This being the case, the earth is a holarchy and its natural divisions or ecoregions (Fig. 3) are acknowledged as holons along with national sovereignties and that of indigenous peoples. Boundaries will overlap and sovereign entities may be contained within or extend beyond political borders. The Amazon Basin and Native American tribes that straddle US and Canadian borders are examples of sovereign entities that transcend political boundaries. This establishes our first principle: **Everyone counts. Everything is counted.**

⁵ This applies not only to farmers but to organisms that contribute to the process by means of protein and compound aggregation, pollination, seed dispersal and soil fertility.

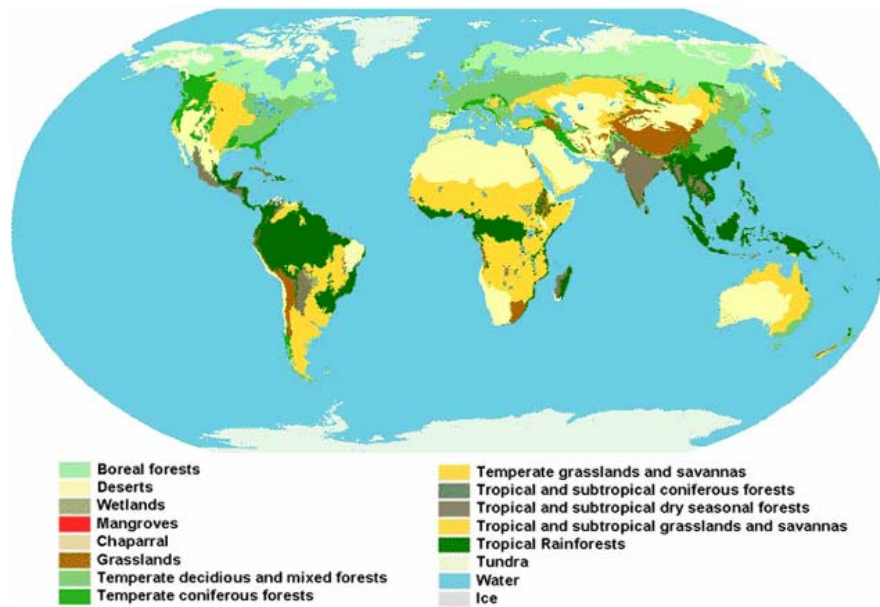


Figure 3. World ecoregions.⁶

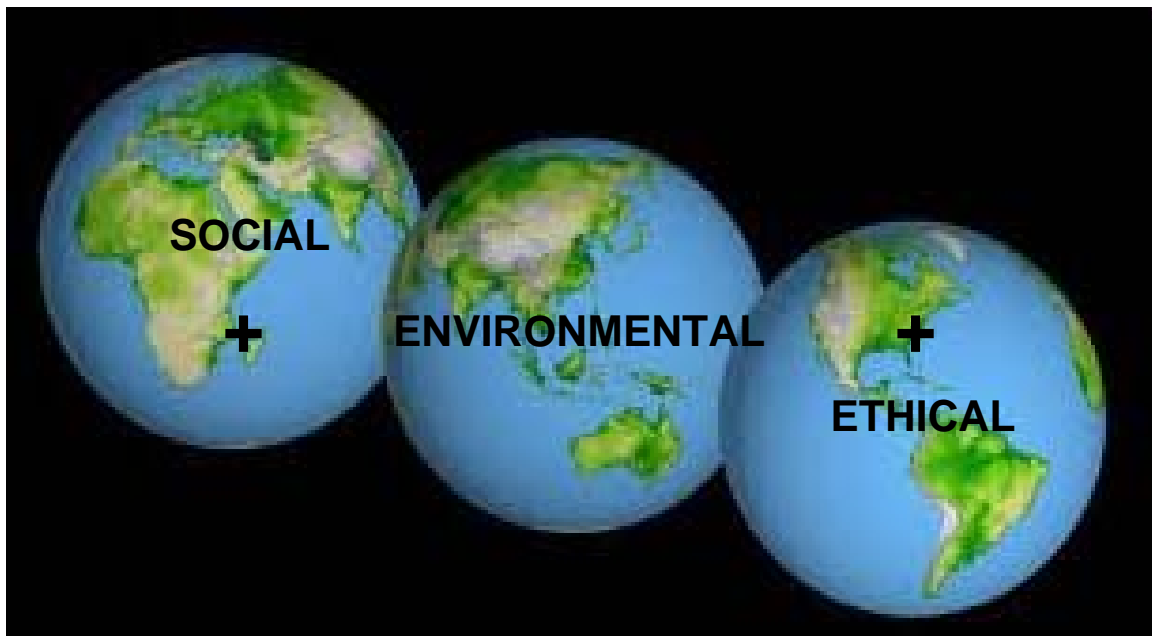


Figure 4. Value domains.

Three main criteria for assigning value, positive and negative, are: Environmental, Ethical and Social domains, correlated to what is referred to as social and environmental capital. These are applied to each entity, element and transaction; a relative value is determined and expressed as a numerical factor.

⁶ <http://www.ecoworld.com/maps/world-ecoregions.html>

Universal values	+	-
Environmental	Conservation, preservation, carbon reduction, recycling, renewal, remediation, restoration, species diversity	Pollution, contamination, species loss, extinction, waste, toxicity, habitat destruction
Ethical	Integrity, liberty, justice, honesty, transparency, truth, compassion, equality, dignity, tolerance, diversity, healing, protection, nurturing, actualization	Secrecy, corruption, repression, torture, coercion, deception, violence, bigotry, discrimination, exploitation, disrespect
Social	rehabilitation, opportunity, education, health care, child care, elder care, political organization, judiciary, arts, creative expression	income disparity, over-consumption, forced labor, class distinction, women's inequality, homophobia, ageism, animal cruelty

Table 1. Some indices – by no means complete.

Three time scales are applied: past historic, present usable, future potential, incorporating Native American and other indigenous wisdom referencing the ancestors and projecting the likely impact of any action forward seven generations. Combined with the three categories of values this generates a matrix by which just about anything can be pegged. Of course, this is a bare-bones outline which can be developed further and refined.

	ENVIRONMENTAL	ETHICAL	SOCIAL
PAST intrinsic	iN	iT	iS
PRESENT manifest	mN	mT	mS
FUTURE potential	pN	pT	pS

Table 2. Values Matrix.

The net value of every person, institution, organization, municipality, region and geographical entity is determined across all indices and totted up to arrive at **NPV**. The sum represents the true wealth of the world which is distributed back to those accounts as universal units of value in proportion to their contribution to the whole. This double-

entry account system is kept balanced by a real-time flow of information in both directions. All the capital necessary is already in place. We have to learn how to work it.

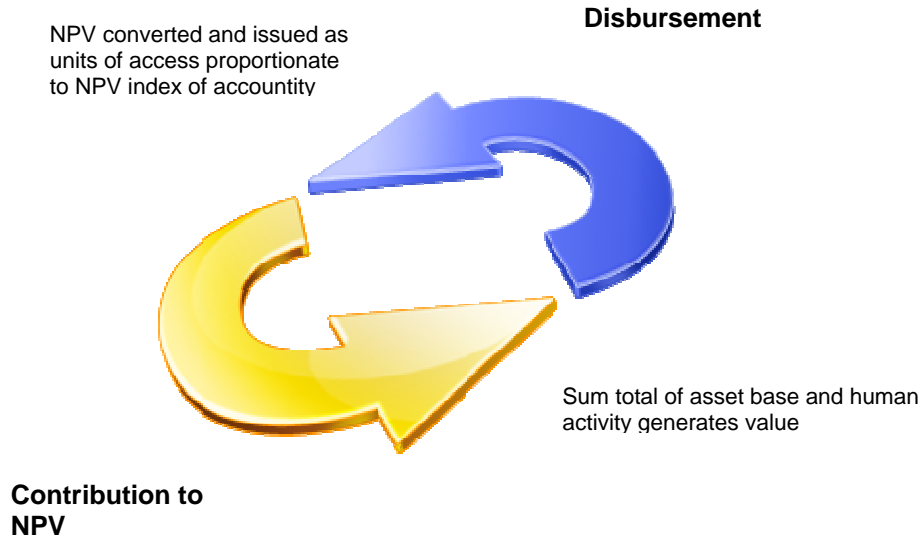
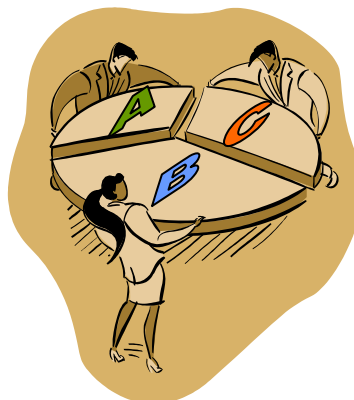


Figure 5. Equity.

Prudent management of the planetary household requires that we not consume our entire patrimony. Following conventional wisdom, we set a budget for operations, consumption and savings by dividing total NPV into three parts:

- A. One third goes to governance, systems maintenance, planning, research, invention and exploration;
- B. A third is distributed for production and consumption;
- C. The balance is held in reserve for emergencies like natural or anthropogenic disasters, epidemics or famine. This acts as a global insurance fund making all other insurance unnecessary.

OPERATIONS
Governance, IT, systems, research, planning, exploration



RESERVES
Natural and anthropogenic disasters, war, epidemics, famine

MAINTENANCE
Disbursement to accountities in proportion to net contribution to NPV

Figure 6. NPV Apportioned.

The magnitude of information and the complexity of recording, indexing and disbursement will require a macro system, combining the reach, ability and fluidity of a Google, Amazon and Wikipedia combined. This system will be ultranational, beyond the control or influence of any government, running through a distributed network on a dedicated web parallel to the world-wide-web (www). The assessment, determination and assignment of value index to each element will follow the best scientific and objective criteria to establish operational algorithms. The real-time, constant adjustments will be free of human determination and influence. Necessary tweaking, especially in the beginning, will be conducted with full transparency and consensus of all members of the governing body, representing all sovereign entities.



Figure 7. Blind Justice co-opted for value assignment for element X.

The operations of the United Nations, the World Bank, stem cell research and the joint US-Russian space station are examples of activities that fall under the aegis of Section A (Fig. 5). Programs would be freed from monetary limitations and budgetary constraints. Project support is in essence an advance against projected increase in contribution to NPV that will flow from the initiative.

Section B covers national budgets and the production and consumption of goods and services, those activities that comprise the now prevailing GDP.

Events like the Haitian earthquake, Gulf of Mexico oil spill, Libyan revolt and Japanese triple disaster would trigger immediate disbursements from Section C reserves for relief, humanitarian aid, environmental mitigation and reconstruction. Critical time is wasted under the present system when governments and agencies each at their own pace search their collective purses for loose change. Section C reserves are replenished as the affected areas recover and resume their contribution to NPV.

The largest volume of disbursements will likely emanate from Section B down through five classes of holons, for our purpose called *accountities* (account entities).

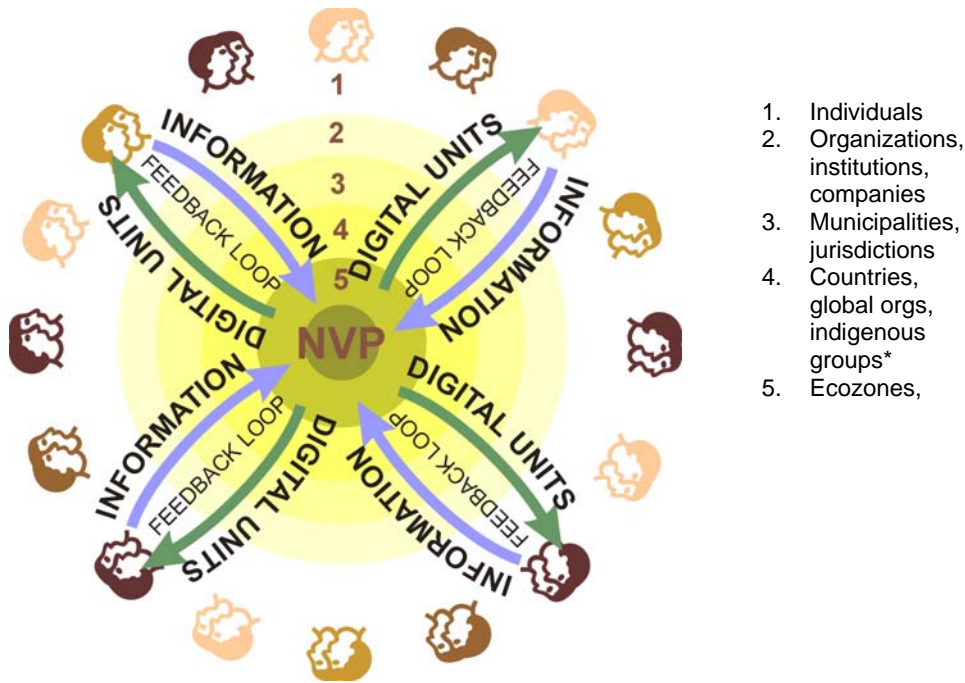


Figure 8. Circulation.

Class 1 – persons over the age of 18 (adults) with two sub-classes:

- a. Infants and youth birth-18 years old
- b. Dependent adults

Sub-class accounts are attached to a parent, guardian or care-giver's account.

Class 2 – incorporated entities

- a. Households
- b. Associations and organizations
- c. Universities, schools, hospitals
- d. Businesses

Class 3 – Municipalities and jurisdictions

- a. Towns
- b. Cities
- c. Counties
- d. Provinces

Class 4 – National and international entities

- a. Countries
- b. Global organizations
- c. Indigenous groups

Class 5

- a. Bioregions
- b. Watersheds
- c. Ecozones

To achieve equity, each person is issued a basic minimum monthly disbursement that ensures access to the essentials of food, shelter and primary health care. This is a fundamental right as a member of the human race in the 21st century. Above and beyond the minimum, personal NPV index is increased by life stage, education, training, talent and accomplishment, increasing overall NPV and resulting in a proportionate increase in disbursement. Additional income is accrued by calculating activity level x NPV rating. The thorny dilemma of evaluating one person's time against another's -- say a plastic bottle collector's contribution vis-a-vis a neurosurgeon's -- is addressed by applying each person's NPV rating to their respective activity level or output.

The highest reward for a man's toil, is not what he gets for it but what he becomes by it.

- John Ruskin

We may expect billions of current wage earners to quit drudgery jobs they hold just to make ends meet. With basic needs taken care of, they will be free to develop their natural talents and pursuits all the while contributing to NPV. Careers will be replaced by vocations. The evaporation of the financial sector will release number-crunchers to serve Value rather than Mammon in new roles of assessment, valorization, and compliance. Mechanization of routine jobs will increase but there will always be room for casual and temporary labor and persons willing to engage in them whether to increase their access to value or just to have structured activity. Some may find fulfillment and meaning in menial tasks. Emancipation from wage slavery will liberate humans to pursue lifelong learning, develop aptitudes and become more engaged in governance and community building.

Many corporations whose raison d'être is profit-making will fold as the profit motive is replaced by a drive for increased contribution to value and concomitant return in increased access to value. Making a quick buck will be a thing of the past. Shoddy goods and inferior service will disappear, by attrition without the need for regulations, as no value will accrue to their producers. The manufacturer will have to change its business model or close. There will be fewer brands, less variety and less waste as all goods produced and sold will be of the highest quality and service having to meet stringent value standards, one of which is recyclability. Cradle to cradle manufacturing will be the norm, replacing designed obsolescence for profit. Without price constraints, consumers will select only the products with the highest value that meet their needs.

Companies that now adhere to a triple bottom line can aspire to an upgraded 3BL of environmental, ethical and social considerations. Competition will continue in the pursuit of market share but one inherently based on merit. Customers will support businesses offering higher value thereby increasing those businesses' value in an ascending virtuous circle. Start-ups will have a ready platform from which to launch without having to figure out how to monetize their endeavor. A blossoming of creativity and innovation will likely be the result.

The distinction between for-profit and non-profit corporations will disappear as all involved in the service sector focus on their core mission without either having to meet shareholder expectations or compete for grant-funding.

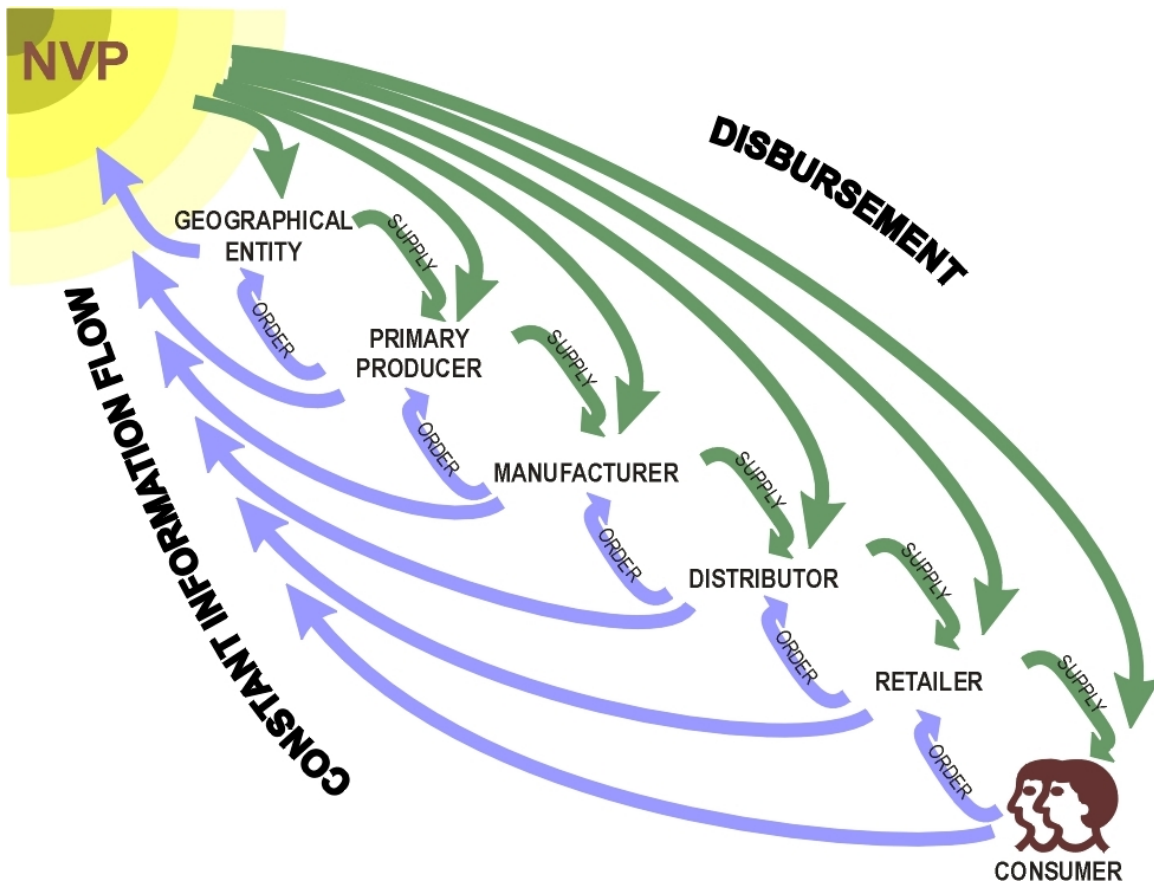


Figure 9. Value Chain.

An end user will access products or services using an electronic interface like a credit card connected to their account. We'll call this a chit – card holder interactive transfer. Now it will be perfectly legal, indeed expected, that you chit the system. The globally networked system records the transaction, deducts an access fee pegged to the value of the transaction, it increases the vendor's activity index for that period, and so on up the distribution line. Fluctuations in volume, frequency, value and nature of activity will be reflected in the following month's disbursement to each account. The real-time reporting allows for a self-regulating system which achieves a steady-state or relative homeostasis through constant feedback.

Built-in Carrots and Sticks

In the same way that NPV index can be increased by contributory behavior, it is decreased by negative activity, or what we will call costs, social and environmental deficits. The system allows for crime, transgressions and social pathology to be automatically reflected in lower NPV overall, resulting in a lower index and disbursement to the offending parties; non-custodial sentences and judicial fines are automatically deducted. Incentives and disincentives are built into the system making many laws and regulations obsolete or unnecessary. The rating of an offending entity will decline until the offence is rectified. Self-correction and improvement similarly will be reflected in an increased NPV rating. It is expected that self-interest will motivate individuals to zealously

guard against their rating decline so as not to jeopardize their access to goods and services.

It will be no longer necessary to criminalize substances and activities that now form the economic base for crime syndicates and gangs as there will be no medium of exchange. Currently illegal substances and activities like prostitution will be legalized and regulated with access under controlled conditions. Their respective negative and positive contributions to NPV will be assessed and the respective ratings applied to producer and consumer accounts accordingly. Abuse and addiction will be treated as the medical problems they are by universally accessible health care.

The removal of the economic roots of armed conflict will no longer require standing armies or defense systems. Weapons manufacture will be phased out as the negative NPV index will be an automatic disincentive. Positive index ratings can be accrued by sovereign and manufacturing entities dismantling and recycling weapons systems.

At another level, for example, if it is determined that CFL and incandescent bulbs are not as efficient or good for the environment as LED bulbs it will not be necessary to curb or influence consumption patterns by legislation as currently under consideration. The higher NPV rating of the LED bulb will be incentive for manufacturers to shift production to LEDs until the other bulbs disappear from the shelves. Lighting fixture manufacturers will similarly phase out incandescent bases in favor of LED fixtures which will increase their NPV rating. Self-interest will coincide with sustainability. Mere green-washing will be flushed out of the system as NPV indices take hold across the range of products and services. The identical process is applied to everything from surgical developments to energy generation.

To initiate a project or increase capacity, an entity -- village artisan, tech start-up, school, hospital or transit agency -- submits a proposal or business plan up-line to the relevant authority which determines how it contributes to NPV. Approval triggers a disbursement from Section A of NPV to the applicant; whether the project fails, breaks even or is a runaway success is reflected back in Section B disbursements. There is no loan that has to be paid back. The self-balancing system reverts to homeostasis in a pattern reminiscent of the human nervous system sending signals to the brain which responds with the release of peptides that regulate metabolism.

A major part of government activity is currently devoted to shaping their respective economies by arcane and complex systems of regulation and incentives. These will be rendered obsolete and unnecessary by the built-in checks and balances of the NPV system. Fiscal limitations will no longer hamper national or local budgets. The concept of a government shut down because of budgetary constraints, of a super power no less, is ludicrous and will become a source of incredulity for future citizens. National and local governments will be free to focus on wellbeing, cultural development, and infrastructure maintenance. Too much of a country's wealth is currently lost through political corruption to enrich dishonest leaders. With no vehicle for the transfer of wealth the occasion will not arise within a moneyless system.

Implications

With no money or currency, there will be no financial fictions: interest, profits, markups, investments, loans, mortgages, derivatives, insurance or prices. This removes market

manipulation, insider trading, hoarding and speculation. Highway robbery, literal and figurative, will be severely curtailed. Without a medium of exchange, ransom, fraud, corruption, bribery, extortion and such money-based crimes will diminish. Somalia will receive monthly access to support its development while Somalis will each receive a personal disbursement that should tend to nullify the need to prey on marine traffic.

Poverty and homelessness will be voluntary. Each person will have access to essentials of food, shelter and healthcare. Anything beyond the basics will depend entirely on the individual's ability, talent, aptitude and inclination. Access to higher levels of goods and services will remain as incentives for effort, innovation and enterprise. Consumption levels will fall overall as output is constrained within the limits of sustainability. The NPV indexes will bring this about automatically without customary interventions like prohibition, rationing, and price or currency adjustments. The invisible hand of the market will be replaced by the invisible scales of value.

The ownership of land will be phased out and will accrue to community land trusts. Real estate titles will be converted to titles of occupancy upon the death of the holder or earlier, and can be transferred or bequeathed to a qualified holder, or assigned to the trust. Many aspects of the realty and property management professions will continue only slightly changed. There just will not be any buying or selling. Developers will submit proposals to build out vacant or underutilized property in the customary manner but now required to meet NPV criteria. On completion the project is assessed for added value and their corporate account index is adjusted accordingly. The development rights to the property come to an end and bids are invited for management rights. Individual adults can access single resident accommodation, while incorporated households of two or more adults can access proportionately larger housing by means of their joint account.

Access to commercial space is determined by size, volume and nature of business pegged by NPV index. Similarly, access to agricultural land and mining will be based on NPV index of the proposal. By this means, industrial agriculture as currently practiced and mountain top removal for coal would not pass muster. Existing facilities will be phased out as the operating entities undergo declining NPV indices – value becomes cost – a negative index being the non-monetary equivalent of bankruptcy. So the presence of minerals or fossil fuels may not necessarily contribute to a net positive NPV index for an account if the extraction process and environmental impact diminish the utility value. Leaving resources untapped may yield a greater NPV index.

Implementation

Because of the intensive digital nature of the system, the development follows that of a typical start-up. The scale however is beyond anything that has been done, bigger than Google, Amazon, Facebook and Wikipedia combined. It will be the next big thing. My limited knowledge would suggest these steps:

1. System design and programming
2. Planetary inventory
3. Evaluation and indexing
4. Data entry
5. Beta testing with self-contained groups

6. Further beta testing with small national entities with little external inputs⁷
7. General availability

Early adopters may include:

- Bolivia and Ecuador whose national policies embrace sustainability considerations; Bhutan which has recognized happiness in its constitution;
- Underdeveloped and developing (in conventional terms) countries which have much to gain as their contribution to NPV will be reflected in increased access to units;
- So-called PIGS (Portugal, Ireland, Greece and Spain) who have run out of economic options. Cuba and Venezuela may recognize this as an opportunity to get out of a US-dominated game.
- It is unclear whether China, already chafing under a dollar-denominated world economy, has not already gone too far down the capitalist road to abjure the monetary system. There is some talk among Neo-Confucianists of an ethics-based economy.⁸
- The emerging democracies of the Middle East, which have suffered extreme income disparity and repression at the hands of autocrats, may be at a critical juncture where they are willing to skip the monetary stage and get a leg up with the New Planetary Vision. Their noble and courageous actions and expression would suggest they may be ready for this.

It is difficult to get a man to understand something, when his salary depends upon his not understanding it!
- Upton Sinclair⁹

Naturally, the greatest resistance will come from the holders of the status quo who perceive that they have more to lose: imperial powers, autocrats, transnational corporations, cartels, banking interests. It is likely that the US will be the last to join in the new economic system. This will be regrettable as the US is currently the world's largest player in current economic terms and wields the most power and influence. US recalcitrance would further contribute to and be yet another reflection of its declining influence on the world stage. The system is broken and traditional approaches are being tried to fix it. Nothing will change unless US citizens take it upon themselves to try another way.

The high degree of centralization may lead some to think this is a post-modern attempt to introduce communism while the emphasis on collective values may suggest socialism. The NPV system may reflect some shared values but it is not a political system; it provides only an economic framework that can be applied to existing systems. Capitalists may choose to retain the current monetary structure as a parallel system for as long as they can but will soon come to accept the futility of their intransigence as that system self-destructs. Greed and the pursuit of profit are the very things which will bring on its

⁷ Temporary proxy accounts may facilitate exchanges with external dollar accounts.

⁸ Confucianism and Ecology: Potential and Limits, Mary Evelyn Tucker, in *Earth Ethics* 10, no.1 (Fall 1998)

⁹ *I, Candidate for Governor: And How I Got Licked* (1935)

demise. The more successful they are in their terms is the more quickly the structure will collapse.

No matter the holdouts, the NPV system can be set up and running based on available data and accounts created for each and every accountancy whether they participate or not. Due to the global calculation necessary to arrive at NPV, everyone and everything will be included. An initial disbursement will be made to holdout accounts which will remain dormant until activated. It may be an incentive for holdouts to know that a starter package of access units is reserved for them and only awaits their activation.

Citizens of countries which do not opt in may bypass national connections to still receive disbursements if they fall under the jurisdiction of another holon (Fig. 9). An advantage of the NPV system is that it is a holarchy, a nested hierarchy in which each entity is a holon. Interrupted or broken connections are circumvented and replaced in a similar way that new arterial pathways are constructed to restore blood-flow, or new plant roots project out around obstructions.

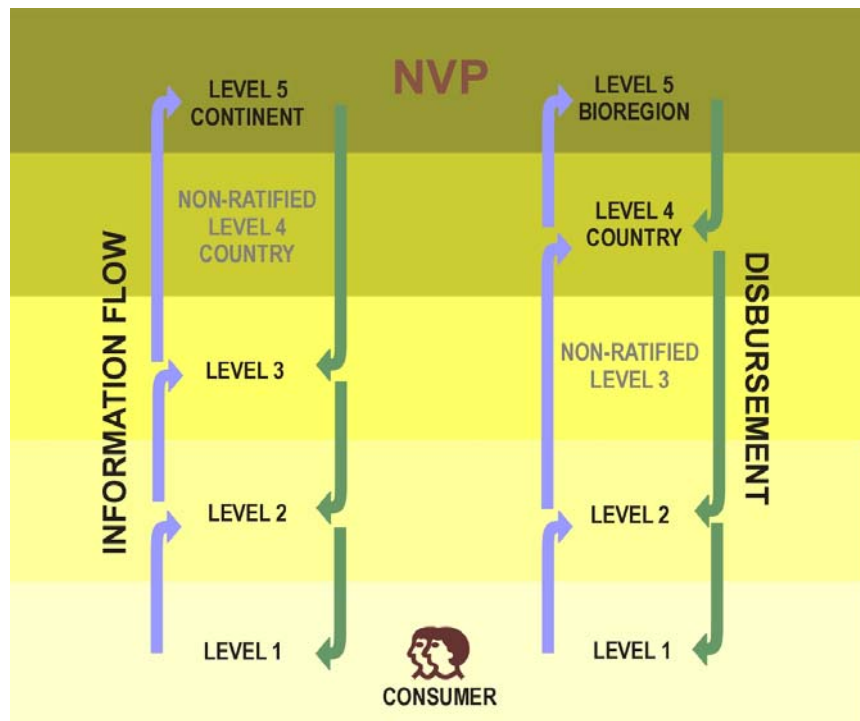


Figure 10. Missing links.

Costs

Under the current economic system, funding will have to be identified to support research, system design and infrastructure for the NPV system. The scope and revolutionary impact of the project may attract voluntary contributions and participation, but certainly global organizations, research institutes, universities and think tanks will have to be engaged. As the project evolves it will begin to sustain itself, putting

into effect the value principles and mechanism on which it is based. Its success will feed further success.

The real cost for the individual will be some loss of privacy as personal information will become the price paid for participation. This is a trend that is already evident in the business practices that harvest detailed personal information from the internet. Mobile phones are inherently insecure and can be used to pinpoint a user's location so we're already trading off privacy for convenience in using communication devices. Some will regard the inability to trade freely and accumulate tokens of wealth as a great loss but this would be likely to occur anyway as the current system goes into meltdown.

The present system will come to be seen as the real cost – to the environment, to human well-being and indeed, to continued survival on the planet. It is based on a self-fulfilling delusion that resources are scarce, controlled by symbols called money which is hoarded in off-shore accounts out of the reach of everyone else.

On the Ground

Age – will no longer be a determining factor for human development. Currently the young are nurtured, then put through a training program called education to prepare them for jobs in the productive machine. Once past a certain age they are regarded as unproductive and shunted off to the sidelines. With lifelong universal education and emphasis on vocations, each person of whatever age or stage has the opportunity to develop their highest potential.

Agriculture – will be restored as the primary source of wealth. The qualifiers 'organic' and 'sustainable' will be redundant as those values are inherent in the new system at every level. Building soil, maximizing production and nutritional content with minimal environmental disruption will replace commoditization, restriction and pursuit of profit.

Banking – will be obsolete, there being nothing to bank. The entire financial sector that has been built on the symbolic tokens of wealth that became at its height mirror images in a mirror in infinite regression will disappear. The mirror is now cracked and will be shattered in due course.

Budgets – will still be an essential planning tool as a blueprint and not as a limitation. State budgets based on taxes, are dependent on growth which is taxed, diminishing returns and profitability, lowering revenue in a vicious cycle. NVP budgets are open-ended and responsive to needs and conditions as they arise. Everything is "paid for" by its intrinsic value and contribution to NVP.

Crime – based on money, such as armed robbery, extortion, blackmail, kidnapping will no longer have a convenient, easily convertible store of value to target. Practitioners will no doubt divert their attention to gaming the system by compromising the security walls. With their basic needs and that of their dependents met each month, there may be less incentive to steal.

Charity – there will be little need for charity as everyone will be provided for. There will be still the need for organized and systematic support for distressed or displaced

populations. Relief agencies such as the Red Cross will have immediate and unlimited access to available resources without the necessity and constraints of fund-raising.

Corporations – will include any two or more persons who decide to pool ideas, talents and resources for a valid purpose. All corporations will be non-profit by definition and default. Existing for-profit corporations will likely disappear, their sole function to make profit no longer possible, unless they can restructure their operations around providing actual value.

Data – will be aggregated to prevent abuse. Personal information will be stripped out as it is transmitted though information will not have the commercial value that it now holds for profit-driven marketers and manufacturers.

Deficit spending – and budget overruns will be a thing of the past. The concept will come to be regarded as a peculiarity, understood as a consequence of tying development and maintenance to tax-based revenue that is contingent on that performance, like a dog chasing its tail.

Drug trade – production, and use of substances will be decriminalized and regulated, taking it out of the hands of the criminal underworld. Removal of monetary incentives will reduce activity in this sector while the value index will further diminish its appeal. Some producers may be certified to divert their expertise to research and development of life-enhancing applications. Persons with addictions will be assisted with a clean and controlled supply under monitored conditions until they can be rehabilitated.

Education – universally available at every age and life stage, will be a major means for enhancing one's personal index. With millions liberated from wage slavery, life-long education is a likely option. Institutions will not be hampered by budgetary and resource constraints.

Entitlements – like social security, health insurance and food support will be absorbed into and expanded in universal disbursements to cover basic needs for the life of each person.

Entrepreneurs – freed of monetary restriction, innovative and enterprising minds and organizations will pursue excellence unadulterated by the need to make profit. Any endeavor shown to create value warrants automatic support with access to resources, personnel and infrastructure.

Family planning – with each child supported from birth, a balancing mechanism will be needed in those areas that are at or beyond optimal carrying capacity. Regulations like China's one-child policy will be unnecessary. Instead, the system will automatically reduce each parental accountability index on the birth of a third child. The reverse could be applied in under-populated areas where incentives would reward fertility.

Farming and food production – will become a pre-eminent vocation, replacing Wall Street wizardry as the sought-after career. Feeding people will be of the highest service.

Food – will be local, fresh, wholesome and healthy with minimal processing. There will be no reason or incentive to be otherwise. Cheap food and empty calories will not reach market since no value will accrue to the producer. Released from wage slavery, families

will have more time to prepare meals from whole foods with care, balance and variety. The effect on public health will be markedly improved.

Free market – the best features of market forces are retained without manipulation driven by profit. Perhaps for the first time a truly free market will emerge on a level playing field for all players.

Gambling – some mechanism will have to be devised to satisfy this drive currently met by the stock market, casinos and other speculative pursuits. Perhaps currency will be retained for this purpose utilized in much the same way tokens are today or like Monopoly money. They may be accumulated and lost but unable to be “cashed in.”

Gangs – youthful energy and testosterone can be redirected in pursuit of value. Given a cause, purpose and sense of belonging, young men can achieve status and ranking, gain experience and develop leadership and social skills.

Gifts – bestowals currently denominated in currency such as awards, donations, gratuities, prizes and scholarships will be replaced by similar based on pure value: appreciation, honor, merit, recognition, reputation, status.

Growth – will be predicated on value rather than volume as measured by money, will be organic and emergent from the balance between human need and environmental limits. Growth will be indicated by increases in NPV as necessary goods and services are produced to meet real needs and not dictated by inaccurate and lopsided increases to the financial bottom-line. Increases to NPV benefit all simultaneously and proportionately. Those at the base of the economic pyramid do not have to depend on crumbs or the trickle down effect.

Healthcare – will be universal and readily accessible. Elective medical procedures will exact a higher deduction from an individual's account. Healthcare institutions and personnel will be “reimbursed” according to the volume and quality of their service. Healthcare insurance will be unnecessary, removing one of the largest obstacles to effective healthcare delivery.

Hostile takeover – this is not an option as there are no shares to buy up as ownership is replaced by subscription and membership determined by consensus.

Homelessness – will be by choice only. There may be something to be said for being untethered, harking back perhaps to our hunter-gatherer days spent in the boundless open, owning nothing more than we could personally carry. Basic allowance will give anyone access to rooming houses, hostels, shelters and hotels.

Household – two or more persons married or not, can incorporate as a domestic entity to share responsibilities, pool resources and qualify for larger housing accommodation. Their individual accounts will remain intact save for a registration notation indicating their corporate status.

Immigration – will be reduced to a trickle, undertaken only by those persons who have pre-existing relationships in the receiving country. Most people, their basic needs taken care of, will remain in their home communities among family, friends and support system. The grass is as green at home as anywhere else.

Inflation – is not possible since the amount of units disbursed is pegged to the value created in a constant feedback loop. The unending wage-price increase chase will be at an end.

Intellectual property – each invention, literary or artistic work registered adds to the creator's value index, and every instance of access to that work contributes to their monthly disbursement. These benefits accrue for the duration of the creator's lifetime, after which they may be bequeathed or assigned to a library, museum or scientific institute to increase that institution's value in perpetuity.

Interest – there will be no money, nothing to borrow or lend, and therefore no interest which is nothing more than a cost to access money which is created when the loan is issued. The amount of interest is not created along with the principal, leading to a shortfall only met by borrowing more, a vicious circle.

Internet commerce – seamlessly facilitated by the all-digital NVP system. Online newspapers, information sources, social networks, music and video-sharing sites will all be automatically credited with each user access.

Investment – without money there will be nothing to invest and no returns on investment. Support can be given to enterprises and initiatives, the rewards from which will be added value to the system, the environment and society.

Jobs – will be few, continuing the present trend to maximize production and efficiency through automation and robotics. With the abolition of wage slavery, people will develop vocations through which they find fulfillment and personal satisfaction. A subsequent flowering of creativity, innovation and excellence is anticipated.

Loan – No money to borrow and no need to borrow. Lending is the mechanism by which new money is created but money to pay back the interest does not exist. This is an unsustainable system that devolves through entropy and must break down eventually. Attempts to keep the system going by packaging entropy in the form of derivatives are immediate examples of the futility of disregarding mathematical laws.

Ownership – and possession of assets and resources will be replaced by access. Already current practices such as leasing, open source, time-sharing and lending libraries exemplify this trend. This leads to more equitable and efficient use of resources.

Political systems – beyond basic human considerations, the NVP system can be applied to any political system at whatever level of political evolution or sophistication. There is a built-in bias towards to equality, equity and participation which capitalism, socialism and communism alike equally espouse. Existing forms of governance will be modified to some extent but will retain basic posture until the constituents elect to change it. NVP underpins and transcends political systems.

Population – increase or decrease can be influenced by localized adjustments to the value index based on carrying capacity.

Profit – will be measured in terms of increases in value index and not in fungible units. It will be a performance indicator that will appeal to the competitive spirit within a new paradigm.

Property – will remain in the possession of current holders. Nothing will be confiscated from anyone to be redistributed. This will avoid panic, hoarding and armed resistance, facilitating an easier transition. It is also unnecessary. It matters not who currently “owns” anything for it to be counted.

Public funding – for political campaigns, broadcasting, education, infrastructure development and maintenance will be routine and automatic.

Retirement and pensions – will be made redundant as each person can choose to be occupied or not at any age and be provided basic support for the duration of their lives.

Self-interest – remains part of the motivation, nudged in the direction of sustainability. Real-time, real-world actions that benefit or harm the self have measurable consequences for all.

Stock market – vestiges may linger as a recreational activity to satisfy the gambling drive. Company ownership is replaced with participation by subscription which can be terminated by expulsion or resignation. There is no “piece” that can be traded or assigned.

Social network – the system and software behind NPV will create the ultimate social network into which every human being will be plugged. The current practice of sending remittances to mobile phones in Haiti and West Africa is an indication of where wireless technology could go.

Transportation – will favor mass transit and the phasing out of private automobiles and the internal combustion engine. The smart-growth trend towards transit-oriented development (TOD) with integrated rail and bus lines, bicycling and walk-able communities will be intensified.

Travel – by air will be considerably reduced as communications systems render physical relocation unnecessary. Leisure travel will be based on solar- and wind-powered vessels requiring more transit time but time to live will be more available for the average person.

Women – have been discriminated and disadvantaged in the monetary economy, earning comparatively less remuneration for similar inputs. With NPV, no gender difference is recognized in basic disbursement or in the accrual of personal value index points. Domestic and other tasks, traditionally carried out by women, are positive gender-neutral index increasing activities. Women who produce most of the food in developing countries will increase their standing, redressing some of the centuries-old inequalities.

US specific implications

Participation by US resident accountities in the Planetary Economy is not contingent upon the US Government acceding to integration.

Qualifying programs that are now threatened by reduction or withdrawal of federal funding will be able to proceed regardless of what the US Congress decides. Existing monetary or currency laws will not apply. Cultural institutions like the Smithsonian Institute,

NPR and public broadcasting will accrue disbursements reflective of their intrinsic value and social contribution.

Both major political parties will find much to like. Instead of spending time and effort wrangling over fiscal policy, deficit spending and national debt, elected representatives can focus on governance on behalf of their constituents unswayed by corporate lobbyists. Republicans will welcome smaller government which will result from many regulations being rendered obsolete by the checks and balances integral to NVP; individual choice and initiative will continue to bring individual reward. Democrats will approve of the universal safety net and will be able to concentrate on building and maintaining the support infrastructure. Campaign "financing" is equally available to all, giving third parties an even chance for the first time, limited only by strategy, imagination and ingenuity and not on who raised how much.

Concepts that have proven useful in ordering things easily achieve such authority over us that we forget their earthly origins and accept them as unalterable givens.

– Albert Einstein

It takes *imagination* to conceive of a better future. This system is idealistic and utopian calling for social engineering and reform on a hitherto unprecedented scale. The thinking behind it couldn't be any simpler but we have been too embroiled and entranced by the present monetary system to question it much less to consider supplanting it with something else. I cannot help but be inspired by the resolute efforts of the people of Tahrir Square and the Middle East. What they are doing makes me believe it can be done and this is time to do it. The status is no longer quo.

These are some rough notes which i share in the hope that others more qualified may take some or other of the ideas and work them into a viable alternative to the mess that now obtains.

Notes to the notes

A large body of research suggests it's best to motivate groups, not individuals. Organize your people into a group; reward everybody when the group achieves its goals. Susan Helper, Morris Kleiner and Yingchun Wang confirm this insight in a working paper for the National Bureau of Economic Research. They compared compensation schemes in different manufacturing settings and found that group incentive pay and hourly pay motivate workers more effectively than individual incentive pay.

- David Brooks, "Social Science Palooza,"

<http://www.nytimes.com/2011/03/18/opinion/18brooks.html>

A change of heart or of values without a practice is only another pointless luxury of a passively consumptive way of life.

- Wendell Berry