Chapter

From Money-Centered to People- and Planet-Centered Ledger Economics: Leveraging the Hidden Wealth of Underutilized Productive Capacity

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Abstract

This chapter introduces a for-profit way to repair persistent problems in free enterprise economics and commerce. Today, continuous advances in technology and human capabilities fail to produce a commensurate, across-the-board rise in the standard of living and quality of life for households and communities. Instead, win-lose competition over money and proliferation of competitive duplication put downward pressure on profits, wages and the purchasing power of families. Despite an ever-growing economic pie, everyone does not enjoy a secure income. This is a money issue, not a productivity issue. Eventually, so-called equilibrium is achieved when businesses downsize, merge and/or fail. But businesses fail while there are still unmet needs for their products and services revealing a missed business opportunity. An innovative alternative is to monetize and market currently underutilized productive capacity using a new form of business scrip termed Ledger Dollars (L$) L$ increase purchasing power within a cooperative network of business and community stakeholders. L$ are analogous to loyalty rewards—backed by unsold products and services—but reward more than consumer spending and enhance cooperation and eco-sustainability. Ledger Dollars constitute a new financial asset class designed to improve traditional fiat-centered economics and advance the now popular Triple-Bottom-Line of People, Planet and Profits.

Keywords: triple-bottom-line economics, people-and-planet centered commerce, monetizing excess productive capacity

1. Introduction

The global economy knows *how to build* nearly anything, but it does not know *what to build* to solve our pressing social, economic, and environmental challenges. This is evident in the persistence of problems like inequality and unsustainability. Our modern economy has not solved these problems because nearly everything we know about economics and commerce was inherited from an era of scarcity, which drives win-lose competition over money, a grow-or-die business imperative, economic disparities, and damage to the natural environment [1].

This win-lose competition over money creates a dilemma. Businesses seek more customers, while people seek more of the very goods and services that businesses want to sell, with money often the only missing ingredient for commerce to occur, even though we invented money to promote needed commerce. At the same time, many people have useful skills for community economic development, with no way to put those people to work because of a lack of money to make that happen. This "lack of money" dilemma hits economically disadvantaged communities especially hard, and increases the challenges of closing economic disparities.

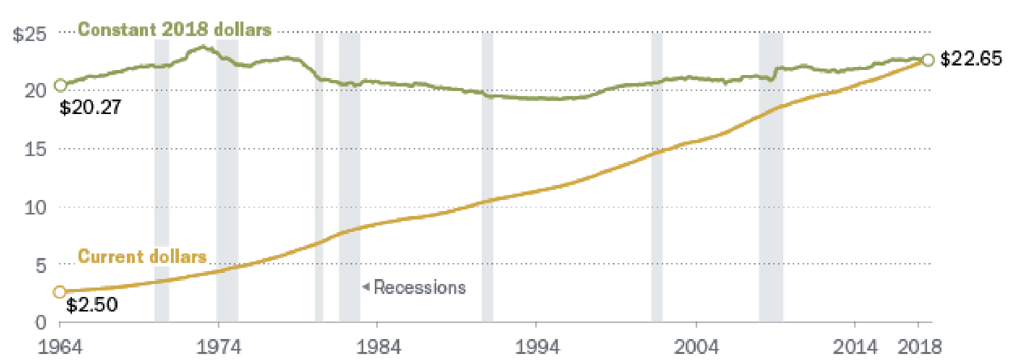
While this dilemma is accepted as normal by economists—as well as by business, community and government leaders—it makes no sense. These problems may seem solvable by issuing more money, but the more we issue money, the more competitive startups and businesses grow, generating more downward pressure on each enterprise's market share, prices, and profits. It also impacts employee wages, which affect family purchasing power [2].

Modern economies have more wealth producing ability—measured in underutilized capacity – than the money to distribute it. Many of our economic problems—from affordable housing and healthcare to world hunger and clean water to education, training and employment—can be solved not by issuing more money, but by questioning the assumption that win-lose competition over money is the most efficient way to provide the greatest economic good for the greatest number. Turning currently underutilized business capacity into profitable production and sales—at the marginal cost of production—is the win-win foundation for a needed update to free-enterprise economic thinking.

Unbridled competition over money is a double-edged sword. Free-enterprise competition is a powerful engine of economic growth. It increases customer traffic to a given destination, while improving consumer choice, quality and service, all while holding down prices. Competition is also our model for economic growth, creating jobs and expanding the tax base by rewarding entrepreneurs for hard work, risk and innovation. However, extreme competition over money puts downward pressure not only on a company's ability to perform, but also on employee wages, which stall or decrease when unbridled competition increases. That creates a large and growing gap between what a normal economy can produce and what employees, families and communities can afford to buy with their artificially restrained wages.

Americans' paychecks are bigger than 40 years ago, but their purchasing power has hardly budged

Average hourly wages in the U.S., seasonally adjusted



Note: Data for wages of production and non-supervisory employees on private non-farm payrolls. "Constant 2018 dollars" describes wages adjusted for inflation. "Current dollars" describes wages reported in the value of the currency when received. "Purchasing power" refers to the amount of goods or services that can be bought per unit of currency.
Source: U.S. Bureau of Labor Statistics.

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The cycle of innovation, growth, maturity and decline applies to most products and industries, and is well understood. The hidden anomaly is that our wealth-producing capabilities constantly improve with advances in technology, infrastructure and human skill, knowledge and creativity. Yet the standard of living and quality of life go up and down with the money-driven boom and bust cycles of the business cycle. Economists insist that falling prices benefit everyone in the end, and that new jobs created by ongoing innovation replace old jobs that are lost. Yet, downward pressure on market share from local-to-global proliferation of competitive duplication causes the growth of excess or underutilized business capacity, creating wasted wealth [3].

2. Confusing money with wealth

This wasted wealth stems from a flaw in how we think about and use money. We have made money the object of competition and the goal of the economic game. The simple yet mysterious fact is that economics, commerce and the popular culture all confuse money (our tool of wealth creation) with wealth (the goods and services). Of course, money is a critical tool in the equation, but it should not itself be the objective of economics. This confusion of money and wealth begins to explain our seemingly intractable social, economic and environmental challenges, even as all the other factors of production are only improving rapidly [4].

Confusing money and wealth is akin to confusing a map with the terrain the map represents. Economics will take a great leap forward when we distinguish money from wealth and introduce a next generation of money to mobilize real and available economic wealth wherever the dollar fails to do so. This is an enormous business opportunity, because there is so much untapped wealth in the world, side-by-side with so much unmet need. This serves no one: not businesses, individuals, communities, or society. This is not just an issue for the poor. Many individuals and families are just a paycheck or a layoff away from dire economic circumstances.

This is a societal problem, not a personal failing; it reflects a repairable shortcoming in our free enterprise system. And no one is to blame for this: not the rich, the poor, the banks, foreign competition, the government, the political left or right, or human nature. We all suffer from outmoded ways of thinking and outdated economic tools and practices. Blaming one group or another - all of them equally caught in a system they did not invent - gets in the way of a solution.

3. Awash In productive capacity

If we look across the economy, it is overflowing with excess productive capacity. College desks are empty more than they are full; restaurant tables are empty more than they are full. There are extensive off hours at fitness clubs, movie theaters, oil change shops, beauty salons and elsewhere. We are living in a world of wasted capacity and yet we are already overbuilt to meet the needs of everyone on the planet. For example, food is an abundant renewable resource, yet people go hungry across the world. Meanwhile, global agrobusiness is one of the most powerful industries on the planet and they want more customers. Business wants more customers and people need more goods and services, and yet, while humans invented money to match buyers with sellers and work to do with people who need jobs, all that's missing is money [5].

The automotive industry offers another example of excess capacity. While numerous people are driving old and perhaps dangerous vehicles, and others can afford no vehicle at all, thousands of auto dealerships are awash in high quality new and used cars. Only money or purchasing power is missing to match eager sellers with eager buyers. The same is true of education. While there is much agreement on the need for a more educated workforce, we do not know how to make college education affordable for all. Many people, young and old, desire a college education that they simply cannot afford (and affordability is a money issue not a wealth production and distribution issue). Colleges and universities have enormous numbers of unfilled desks and compete for student tuition dollars. For the most part, they each have enough infrastructure, instructors and staff to serve many more students, and could easily increase teachers and staff if a source of funding was available for everyone who wants to go to school. Scholarships are a means of discounting tuition, yet many youth leave college saddled in debt—again a money issue!

4. What we have not learned from economic downturns

The hidden lessons of the 2008–9 US housing market crash and subsequent global economic downturn are revealed in the movie The Big Short [6]. The movie ends with three revealing statistics: in the US alone, $5 trillion in wealth disappeared; 8 million people lost their jobs; 6 million families lost their homes. We also know that many millions of people lost some or all of their life savings and large numbers of businesses failed. Why are these well-known figures critical for repairing the US and global economies? Because the simple fact is that *no real wealth disappeared*: no buildings, no technology or global economic infrastructure, no labor skill, management knowhow or human creativity disappeared, no products disappeared off retail shelves, and not a single ounce of materials or a joule of energy disappeared. So what *disappeared* causing the devastating economic consequences on people and communities?

Technically, only valuations fell. Valuations are the price in dollars that one might expect to receive when selling stock, a company, a home, or other real and valuable material assets. In other words, during an economic downturn, numbers in computers, called money or stock, shrink. Nothing in the material world that constitutes wealth nor any of the factors of production, described above, disappear or diminished. In fact, the factors of production continue to improve during economic downturns, which ultimately help to set the stage for eventual recoveries. In truth, once again, only money goes missing to put people back to work and turn idle productive capacity into new consumable wealth for society.

This is, in part, what makes life in the modern world so stressful. Advances in technology cause us to chase money at an ever-increasing rate, rather than allowing us to enjoy time in nature, family and community time, personal growth and development time, religious and spiritual time, and so forth. It is outside our sense of possibility that technology could do the lion's portion of the work, leaving people to enjoy ever-shorter working hours by sharing what is left. Instead, people are today chasing after a living at the ever-increasing, 24–7-365 pace of technology. And we are paying the price with our health, and the health of our families, workplaces and communities. Technology could eliminate most repetitive, boring, and dangerous work, allowing people to enjoy life more. Why instead are ever-growing numbers of people feeling anxious about their economic futures and depressed about their situations? Put bluntly, the dynamics of the economy have hard-wired us to chase money for survival (and, of course, for many to get ahead).

5. Rethinking supply and demand

As a solution to the dilemma of businesses with desirable goods and services existing side-by-side with eager customers lacking purchasing power, we propose

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creating a next generation of money—backed by the underutilized wealth of society—to stretch purchasing power in fiat currencies beyond what is available today. Fiat currencies have a critical role to play as a means of exchange, but a single currency does not efficiently distribute both what is abundant and what is scarce. A new accounting protocol can stretch current financial resources to distribute evermore available wealth. Pairing the dollar with a second currency, as a measure of wealth, addresses this dilemma, expanding production and distribution for what is already or could easily be in sufficient supply, e.g., food, shelter, healthcare, education, and so forth. In such a system, the ratio between dollars and the second currency in the price of an item would denote its relative scarcity or sufficiency.

Consider how the sharing economy accomplished rapid economic growth when mobile apps and social media had a fraction of the economic impact that they have today. A decade ago, it exploded onto the scene creating millions of jobs and billions of dollars of new wealth. On the one hand, the sharing economy demonstrated how to capture, monetize and distribute the excess productive capacity of solopreneurs—an empty room in someone's home or an idle car and driver. On the other hand, filtered through win-lose competition over money, someone had to take the hit for all this economic growth. Hotels, motels and their employees took the hit from the rise of Airbnb, while cab drivers, limo drivers and their companies took the hit from the rise of Uber and Lyft. This showed how the outdated economics of scarcity, based in win-lose competition over money, can stifle efforts to monetize excess capacity.

We need, instead, to move toward "Continuous Economic Improvement", where every advance in the factors of production—technology; infrastructure; human skill, knowledge and creativity; our ever-growing access to nature's abundant and free renewable resources—raises the standard of living and quality of life for everyone, shortens working hours across-the-board and, ultimately, eliminates traditional economic growth and creates a Circular Economy.

When we monetize excess capacity, as in the sharing economy, not with dollars, since the lack of dollars has created the problem to begin with, but with another measure of wealth, a second currency, we can address the paradox of our having excess wealth and insufficient cash. It also enables us to close disparities, whether it's for women or communities of color or youth, which is hard to do in a cash economy because of a lack of dollars. In a dual currency system, if somebody pays you in the second currency, you can pay for things on a part cash/part second-currency basis, stretching your purchasing power and get more of what you need.

The traditional approach to closing disparities include: local, state and national government programs; philanthropy and volunteerism; corporate social responsibility and social entrepreneurship; cooperative enterprises; women and minority owned businesses; public education campaigns; wellness campaigns; green products and services; microlending; collective impact initiatives and so forth. Just as millions of businesses compete over market share with their products and services, millions of government agencies, schools and community programs compete for tax allocations, and millions of non-profit and community organizations compete for philanthropic funding and volunteer time. In the end, this proliferation of competitive duplication within and across sectors creates immense inefficiency. Greater efficiency is at the heart of economic progress and environmental sustainability.

Continuous Economic Improvement would operate not by holding down production to the level of available purchasing power, but by raising the purchasing power for individuals, families and communities by capturing he ever-increasing productive capacity in the world. In order not to disrupt what was already working well in the economy, Continuous Economic Improvement would not raise employer labor costs, increase taxes or increase debt. It has three cornerstone premises:

- Business innovation and the profit motive is more effective than politics to solve social, economic and environmental challenges. When joined with institutional power and resources and community wisdom and mobilization (empowered by social media and other modern information technologies), it would be an unstoppable force for the common good.

- Modern technology, global economic infrastructure, renewable resources and eco-sustainable business practices can now produce more than enough food, housing, education, healthcare, travel and entertainment options for everyone on the planet to enjoy a high quality of life and a healthy balanced lifestyle.

- Money, commerce and citizen empowerment could be immediately brought into the 21st Century with another step in the history of money innovation. We would go from barter to coins to paper currency to electronic commerce to ledgers as part and parcel of economic history.

6. Ledger economics

An economics based on ledgers recognizes that transactions that once involved exchanging tokens – cash and coins – are now increasingly done through credit and debit cards, which amounts to digital bits moving from one ledger to another. This represents a transformation in the history of money. Unlike cash and coin tokens, ledgers do not crash or inflate in value, do not experience scarcity or hoarding, and do not lend themselves to speculation or theft. Moreover, ledgers allow us to measure not just the exchange of cash, but other currencies as well, accounting not only for money, but also for other forms of capital that we have not tallied before [7].

The role of ledgers as a measure of untapped wealth has broad implications for many of the chronic challenges we face. Impoverished communities, for example, may lack money, but they often have extraordinary amounts of social and cultural capital, which, if accounted for, can enable these communities to address their own problems and meet their own needs without depending upon government programs or non-profit charity. Ledgers also enable us to have economic activity that does not destroy the natural environment in the process by accounting for work that has environmental benefits as equally as that which does not. Likewise, ledgers provide a way for businesses that have excess capacity and owners who have under-utilized goods and services to put those assets to work meeting the unmet needs of customers and consumers.

Ledgers measure wealth, while U.S. dollars – and the national currencies in other nations –remain primarily units of exchange. But there are also other features that distinguish these two types of currencies. A ledger currency – let us call them Ledger Dollars (L$) – could stretch U.S. dollars through dual currency transactions. For example, a $20.00 restaurant meal might cost $12.00 and L$ 8.00, much like the economics of senior discounts or '2 for 1' dining. Or a $20 fitness club pass might cost $4.00 and L$ 16.00, based on the much lower marginal cost of production at a club than at a restaurant.

Bank-issued dollars – or other national currencies – are government money, backed by debt and taxes. Ledger Dollars are more like loyalty rewards (frequent flyer miles, Hilton Honors, Starbuck Points, etc.) which are business-issued currencies backed by real business products and services. But unlike loyalty rewards, L$ are not rewarded for consumer spending and do not promote the competitive advantage of one business over another. National currencies are scarce by their very nature and therefore they command interest and dividends in the market. They are also party to the ups and downs of speculation and part-and-parcel of inflationary and recessionary problems as well. In contrast, Ledger Dollars are purely symbols—mere entries in a ledger—used to match production of goods and services with business, employee, customer, family and community wants and needs. There can never be a shortage of symbols—inches, gallons, pounds or numbers— to get needed work done in communities. And through the efficient match of customer purchasing power to available products and services, we can finally solve the pesky problems of inflation and recession.

U.S. dollars or other national currencies are a blunt instrument to address economic inequity, as traditional money chases the highest rate of return and as interest and dividends bring evermore money to those who already have money. Ledger Dollars, instead, encourage a more level economic playing field through smarter production and distribution of real wealth. Finally, U.S. dollars encourage consumerism to promote traditional economic growth, which has negative social and environmental consequences. In contrast, Ledger Dollars promote a higher quality of life by engaging everyone in greater economic efficiency and voluntary sharing of currently idle resources, advancing better living, with less consumption [8].

Traditional Economics and Commerce versus
Dual Currency Commerce and Ledger Economics

Category	Fiat-based Economic and Commerce	Dual Currency Commerce and Ledger Economics
Philosophy	Competition over scarce resources—in the face of unlimited wants and needs—creates the greatest good for the greatest number.	People and planet-centered economics and social entrepreneurship. Breaks no laws of free enterprise economics; fiat/dollars distribute what is scarce; Ledger Dollars distribute what is sufficient/abundant. Business-led, market-based, profit driven, yet immediate not trickle down.
Economic Driver(s)	Maximize shareholder value through increased profits (not a bad thing, just an incomplete approach)	Triple bottom line: people, profits, planet; seeks an equitable win for all stakeholders, while protecting the environment
Currency Innovation	Not a field of economics; latest design innovation was paper tokens to digital tokens riding banking and Automated Clearinghouse (ACH) ledgers	Transitions economics and commerce from solely using a fiat token currency to a dual currency combination of a fiat currency and a ledger currency
Economic domain(s)	Revolves around what is measured in fiat currency	3 domains: fiat economy; non-fiat monetized economy; unrecognized and nonmonetized excess productive capacity economy
Price setting	Supply and Demand sets prices in fiat currencies only leaving extensive underutilized productive capacity side-by-side with extensive unmet needs	• *Total Supply* recognizes the sum of available wealth in all three domains (see above) • *Total Demand* recognizes all unmet needs across the planet • *Supply* of goods and services in the modern era outstrips humanity's ability to consume in many categories of production • What remains scarce is subject to either fiat only pricing or a higher ratio of fiat to Ledger Dollars in the price

Traditional Economics and Commerce versus Dual Currency Commerce and Ledger Economics

Category	Fiat-based Economic and Commerce	Dual Currency Commerce and Ledger Economics
Competition vs. Cooperation	Competition over money leaves wealth on the table and drives win-lose results	Dual Currency Commerce balances competition and cooperation to lift everyone up together
Impacts of labor-saving technology, outsourcing, mergers and acquisitions	Many people lose their jobs, while other people are left working longer and harder.	Advances in technology and sharing work globally raises everyone's standard of living and quality of life, while shortening working hours, and reducing damage to the natural environment
Quality of life considerations	Drives longer working hours and business versus labor workplace dynamics; degrades the natural environment; social issues (crime, workplace stress, addiction) are considered "personal problems"	Continuous economic improvement drives: ever-higher quality of life; ever-shorter working hours; ever-less damage to the natural environment by thoughtful and cooperative distribution of work, material sufficiency, and leisure; social problems (crime, workplace stress, addictions) are addressed as social issues
Diversity, Equity and Inclusion	Disparities remain and expand because fiat money seeks the highest rate of return and results in money flight from communities	Disparities become relatively easy to close at the marginal cost of production through the monetization of excess productive capacity
Governance	Government banking regulations and one-size-fits-all civil legislation	Governance by protocol (akin to the Internet, Visa/MC, and the 12 Step program of Alcoholics Anonymous). Algorithms govern currency distribution based upon available resources. Mass customization allows all network stakeholders to determine rules and regulations within customized communities
Relationship to growth	Based on consumerism and the inherited "grow-or-die" business imperative	Seeks to build a Circular Economy with a values-based economic engine; recognizes extensive underutilized productive capacity and replaces growth imperative with efficiency; does not need consumerism, so focuses on quality-of-life considerations
Healthcare	Focus is on institutional care and treatment, not prevention; highly profitable activities include: treating cancer and diabetes; diagnostics and pharmaceuticals; cardiovascular medicine (a heart attack is a major economic event, while quitting smoking lowers the GDP)	Focus is on individual, family and community health and wellness through addressing the Social Determinants of Health and Health Disparities. Wellness investments are low-cost, including healthy diet, moderate exercise, economic stability and wellness education, etc.

7. Money innovation

Ledger economics represent a paradigm shift in how we think about money and look at wealth. Consider that nothing in the physical universe changed when human perception shifted from the earth at the center of the universe to the sun at the center of the solar system. Yet, that shift in perception opened the door to enormous advances in science and society. Using the solar system as a metaphor, money has long stood at the center of society's economic universe. This has led us to subordinate all that we do to the availability of money, including much that communities value: families, education and healthcare, God and spirituality, hobbies, healthy balanced lives, culture, the natural environment and more.

Ledger Dollars put those values, rather than cash, at the center of the economic universe. Money should revolve around values and not the other way around, especially since money is just a means to our ends, something that we designed and that we can redesign if it no longer helps us achieve what we most value. The redesign of money may sound odd, but we have done this before, innovating new tokens of exchange when necessary.

Historically, money innovation has been technology-driven, following the accelerating pace of economic evolution. In the 1800s, the United States transitioned from gold and silver coins to paper currency, as the dominant form of money. During that time, virtually every state and every bank issued their own paper money. The system was unworkable, and thousands of banks failed. In response, the equivalent of an industry standard was set for paper currency. It consisted of a single national currency and a Federal Reserve System. Then, a hundred years later the phenomenon was repeated.

In the early years of the credit-card-industry banks, department stores, gas stations and others each issued and processed their own credit cards. The young industry had operating losses of tens of millions of dollars. An industry standard was set that provided workability and profitability for the banks. It was the VISA platform (followed quickly by MasterCard) [9]. We can learn a great deal from the standard that was set, because it included a new financial instrument (the electronic debit and credit), a new payment platform and a cooperative network of banks and retail merchants. Virtually everything proposed here can be created rapidly through a cooperative network made up of banks (and the payment systems industry), retail merchants and cardholders, which was the original vision of VISA's Founder. Money innovation has also enabled the democratization of wealth:

- The agricultural era brought the transition from bartering to gold coins over a 3,000 to 5,000 year period, with coins made possible by the technologies of smelting and metal casting

- The industrial era, over a period of 300 to 500 years, saw the transition to paper currency and checks, all made possible by printing and paper making

- Today's high-tech global era, fueled by the transition to electronic banking, credit cards, e-commerce, and now mobile apps, has matured over a mere 30 to 50 years, all made possible by computers, plastics, and the Internet.

That increasing pace, from millennia to centuries to decades, has demonstrated not only the growing rapidity of money innovation, but also its feasibility as a way to address unmet needs. And if that pace continues, we think that it could be just a matter of 3 to 5 years to see the emergence of a monetary system that revolves around and supports what communities most value: a second currency, enabled by mobile apps, social media and blockchain and able to absorb excess assets, compensate voluntary work, and increase the quality of life of everyone.

We cannot solve society's greatest challenges with a tool – money – that is insufficient for the tasks we want it to do. But this is not impractical or overly idealistic at all when you realize that society operates at only a fraction of its social, economic and environmental potential. We have all the tools that we need to make a rapid and sustainable economic transformation happen and a universally high quality of life available to everyone.

Over 70 years ago, with no computers or global economic infrastructure - and with only on-the-job training for the so-called unskilled members of society - the U.S. went from the depths of the depression to full employment and global war production in a mere 18 months. The three key ingredients of this extraordinary economic feat were a common cause, a funding source, and a cooperative mobilization in contrast to everyday competition over money. A common vision, modern technology, a new wealth accounting protocol, and cooperative mobilization could enable a 21st century ledger-economic system that works at the pace of mobile apps and social media.

Ledger Dollars integrate the best features of many popular currencies

Money Type	Most useful features	Least useful Features
Fiat/national currencies	• Proven and tested, highly productive, mainstream system (Coin of the Realm) • Used across the private, public, nonprofit, cooperative and social impact sectors • Engine of innovation including social entrepreneurship • Rewards risk, innovation and hard work • Already functions from local-to-global	• Money-centered not Triple Bottom Line-based • Elevates competition over cooperation and fails to distribute what is abundant • Does not address gaping economic disparities • Money flows to the highest rate of return causing community impoverishment • History of economic crashes; inflation and recession • Unsolved problems lead to political fighting rather than united solutions • Money competition is hard-wired for growth rather than sustainability
Barter	• Widescale use in both B2B and C2C exchange • Mobilizes excess business capacity • Popular workaround for lack of fiat currency	• No effective and widely used model of B2C exchange • Too much bartering disrupts a company's cash flow • Most businesses use in-kind contributions as the way to support community economic development
Loyalty Rewards	• Global currency backed by business excess capacity • Demonstrates fully functioning dual currency pricing, accounting and transaction settlement technology	• Loyalty rewards are a competitive weapon in the market • Thousands of competing rewards does little to address economic development • Rewarding spending increases disparities and does not support sustainability
Community Currencies and Time Dollars	• People helping people in local economic exchange • Human scale activity • Supports relationships	• Rarely accepted by Merchants • No proof of scalability • Lifestyle choice, not systems-change lever

Ledger Dollars integrate the best features of many popular currencies		
Money Type	**Most useful features**	**Least useful Features**
Cryptocurrencies	• Leverages blockchain technology for secure, cost-effective, and immutable transactions; demonstrates scalability • Generally governed through rules-based protocols; decentralized design may support community autonomy and mass customization • Helping to make Money Innovation a mainstream concept • capital accumulation, which has created new infrastructure that can be applied to upgrading the economy	• Mining as the source of origination does not provide significant social value; some argue environmentally harmful energy use • So far economically ineffective: rarely accepted by merchants; creates few jobs despite the speculative frenzy; does not close disparities, etc. • Unstable value inside speculative markets; serious risk to investors
Anticipated results by combining the best features of multiple currencies and platforms		
Ledger Dollars used within a Dual Currency Ledger Economics Network	• Stretches dollars rather than competes with dollars; mainstream with a profit motive in dollars • Backed by goods and services through dual currency contracts with Merchants • Denominated in every country's fiat currency for ease of pricing • Rewards many types of social good • Delivers new wealth into the economy at the marginal cost of production to close disparities • Technology is at hand in the loyalty rewards industry across the globe; relatively easy to launch and scale • Ledgers do not crash; suffer inflation, recession or money flight from communities; akin to loyalty rewards, Ledger Dollars are an accounting protocol, not a circulating token; they are issued, redeemed, and taken off the books • The system is managed by governance protocol (akin to the Visa/MC Interchange or the Internet); money supply is managed by algorithms; addresses the Triple Bottom Line of People-Profits-Planet	

8. A dual-currency ledger dollar system

The Dual-Currency Ledger-Dollar (DCLD) system has four main stakeholder groups: Individuals, Merchants, Sponsors, and System Operators.

Individuals download the DCLD app and receive a first monthly dividend on their smart phones or other digital device. The app reveals where to earn and where to spend Ledger Dollars. It helps people to find community organizations, schools, employers and government agencies offering L$ to volunteers, students, employees, and government benefit recipients who seek to earn additional Ledger Dollars above their monthly allocation. For participants in the system, it not only has the tangible benefit of increasing their purchasing power at participating merchants, but also intangible advantages like feeling valued for contributing to thriving communities, meeting like-minded people, and helping create a better world that works for everyone.

Sponsors are the community-oriented organizations that aggregate and report the rewardable activities of network participants. A public school, for example, could reward parents or local residents who tutor struggling students. It could also reward those students for putting in the effort to improve their academic performance or engage in service learning in the community. Employers would do the same for participating employees who join company volunteer groups, wellness teams or green teams. Community organizations reward volunteers. Healthcare systems reward patient compliance, donating blood, and better health outcomes. Government agencies distribute L$ to benefits recipients. Indeed, any socially valuable activities can lead to earning extra Ledger Dollars. In this way, Sponsors can improve volunteer recruitment and retention, advance community wellbeing, increase their impact, attract funder attention and support, and reward the engagement of their own employees.

Merchants determine the *ratio* of U.S. dollars to Ledger Dollars to accept and any restrictions on when they will accept the second currency. Merchants benefit by increasing the number of customers, while selling targeted excess capacity at the marginal cost of production plus an incremental cash profit. They pay a modest marketing fee on dual currency sales and receive useful demographic data on community participation, free L$ employee benefit, and excellent community PR.

System Operators include payment processors and merchant services organizations; consultants to the private, public, nonprofit, cooperative, and social impact sectors; algorithm architects who see that the L$ supply makes a good match between monetized excess capacity and unmet family and community needs and others who help to aid the transition from a dollars-only economy to a dual-currency ledger system.

Stakeholder Benefits in a Dual Currency Ledger Economics Network (DCLEN)	
Individuals	• Increased purchasing power and reduction of economic insecurity • Greater job opportunities (better match of work in communities with people who need jobs) • Continuous economic improvement means more personal, family and community time • Akin to the GI Bill (1944), 1–2 gap years of domestic or international service can provide youth with fully funded college educations
Merchants	• Increased customers, sales and profits • Improved employee recruitment and retention from improved benefits and thriving workplace cultures • Excellent community PR
Sponsors	• Ledger Dollars expand funding to achieve goals and help to recruit and retain the best talent • Voluntary Dual Currency Sliding-Scale prices are a unique form of support to close disparities • A share of system transaction fees (akin to affinity donations)
System Operators	• A share in system transaction fees • Innovative spin-off business opportunities • A leadership role in sustainable economic development

9. How it works for individuals

Sonya is a nurse in a community clinic who hears about recovery dollars from a coworker. She downloads the mobile app and receives a first monthly dividend of L$ 100.00. That dividend is determined by an algorithm based upon the volume of merchants in the network and their redemption patterns: The more merchants who join and the more people seek their products and services, the larger the dividend grows to over time.

Using the merchant directory and location map, Sonya finds a local gym where a standard $99.00 membership now costs her $50.00 plus L$ 49.00, which would be akin to the gym offering a 50% discount to attract new members. This stretches Sonya's cash and brings in extra revenue to the gym, given the low marginal cost of accommodating another customer on underused equipment and facilities.

Eager to earn more recovery dollars, Sonia uses the app to locate community sponsors who could use volunteers. When she spends two hours a week volunteering with a sponsor in the network, Sonya earns L$ 20.00/hour, which adds an additional L$ 160.00 per month to her account. Sonya also finds that a local food co-op allows customers to pay 10% of their total shopping bills in recovery dollars, which not only increases their purchasing power, but also builds a more cooperative economy by incentivizing customers to volunteer.

On the weekend, Sonya notices that the app continually highlights new merchant offers in her neighborhood and she finds a "L$ Deal" at a hair salon (shampoo and cut for $30.00 and L$30.00 for new customers). She meets some of her volunteer friends at a restaurant where their $80.00 tab is $55.00 and L$25.00 (tax and tip in cash). Sonya also donates L$20.00 to a teen group raising money for a local sports team. Spending L$ help her save cash on every day purchases and support her favorite causes from the savings.

The system can also incorporate a feature to help close social and economic disparities without resorting to tax dollars. A bit like rounding-up for a cause or paying-it-forward at the drive-through, economically well-off participants voluntarily pay further up the US dollar side of Dual Currency transactions, making it possible for economically disadvantaged participants to transact in fewer dollars and more Ledger Dollars. For example: on a $20.00 meal that was priced at $12.00 and L$8.00, a more financially well-off person can voluntarily pay $18.00 cash and L$ 2.00 (or tithe and pay $22.00), which would allow a lower-income person, to pay $6.00 cash and L$ 14.00 for their $20.00 meal. In both cases, merchants gets the dollars that they contracted for, but unlike when everyone pays the same price, some people voluntarily pay with more cash allowing others to pay with more Ledger Dollars. This is a market-based, people-helping-people model that could grow up and reduce the need for so many tax-funded government programs.

10. How it works for employers and communities

One use of currently wasted wealth is intended to increase employee compensation without raising cash labor costs for employers. The process improves employee wages and benefits by utilizing empty restaurant tables, off-hours at fitness clubs, excess retail inventory, and so on. Instead of downsizing companies to match money-based demand in the market, it raises people's purchasing power up to the level of available business capacity.

Many employers know how to use a portion of their excess capacity as a perk or a benefit for their own employees. Employees who work for an airline enjoy free or discounted flights. Those who work at universities generally enjoy free or discounted classes. Fitness club employees enjoy free or discounted memberships, while restaurant employees enjoy free or discounted food. This is true across the private sector, as well as in the public sector (public universities) and the nonprofit sector (YM/YWCAs). It is noteworthy that if businesses operated at full-capacity, with 100 percent cash customers, this common form of employee benefits would not exist, confirming the existence of underutilized business capacity.

Ledger economics makes the excess capacity of employers available to all employees as a perk or benefit for working within a network of cooperating businesses, government agencies and nonprofit organizations. Imagine the pooling of all this excess capacity into a "virtual community warehouse" for sustainable economic development, accessed not only by employees, but also by all those earning rewards within the community.

The warehouse would be virtual because none of the products need to be purchased in advance or stored somewhere special, as with traditional bricks-and-mortar retail. Instead, they remain where they are normally produced and sold—at the airlines, the university, the fitness club or the restaurant. This system simply captures currently underutilized business capacity to offer people new purchasing power, to attract more customers, and to give communities new economic resources.

The free-enterprise system manages excessive competition, easily and without government regulation, by setting needed standards across any given industry. Capitalist countries have yet to apply this principle to proliferation of competitive duplication within the economy, whether at the local, state or national levels. Why set industry standards? Consider how impractical it would be if there were 15 different types of electrical outlets to accommodate 15 different styles of electrical plugs on consumer products. To avoid this mess, an industry standard is set to which all manufacturers of both electrical outlets and consumer products adhere. The same is true of Internet Protocol on the World Wide Web, which did not require government regulation, but instead grew out of collaborative development and agreed upon design principles.

The virtual warehouse would work in the same way. The participating merchants would establish a standard that everyone would agree to follow as part of the mobile app, with instructions to participating customers and sponsors on how to access the excess capacity and how to document the community hours that volunteers have donated in exchange for additional recovery dollars. When everyone has something to gain from a system, the participants involved in it have a strong incentive to agree on an industry standard so that all can benefit.

11. Ledger dollars and the IRS

Will people have to pay income taxes on the Ledger Dollars they receive as a dividend or earn through their community work? While it is not possible to know the answer ahead of a formal ruling, there are useful precedents. Since the merchant is simply taking less cash and not keeping and spending a circulating currency, then Ledger Dollars are clearly not a barter dollar. Barter dollars are considered commercial in nature and taxable (with taxes due in US dollars). This system operates, instead, like a universal employee discount network, and discounts are not taxable income.

Ledger Dollars are similar to the discounts that employees enjoy from their own employers' excess capacity: discount flights for airline employees, discount classes for university employees, discount meals for restaurant employees, etc. And by awarding Ledger Dollars to volunteers and others, participating employees and non-employees benefit from discounts at businesses everywhere in the network. A third precedent is a community currency know as Time Dollars [10]. Time Dollars are a people-helping-people, noncommercial, community economic development currency, and they are not taxable as income. There was a ruling many years ago by the Minnesota Department of Revenue that state welfare recipients who earned Community Service Dollars (a predecessor currency) through volunteerism would not have their welfare benefits reduced, which is one more positive precedent.

While cryptocurrencies are taxable if there are capital gains from the sale of an investment in crypto, Ledger Dollars, taken off the books as soon as they are redeemed, is not an investable or speculative instrument, which is yet another reason why Ledger Dollars might not be taxed as income. Ultimately the issue is not whether this second currency will be taxable, but rather how much can this system upgrade the economy and help to create a universally high quality of life. A mature system could fund many of the community economic development needs that taxes are used for today, with the idea that an ever-more efficient economy will result in less need for government services paid for through taxation.

The factors of wealth production are all at hand and continuously improving: technology, global infrastructure; human knowledge and creativity, innovative business models, access to the earth's free and abundant renewable resources. Yet large numbers of people in the US and around the world still face a low and/or deteriorating quality of life. This can be seen in poverty and widespread economic insecurity, poor public health and safety, workplace stress, social and economic disparities, crime, addictions, youth at risk, pollution, and so forth... all of it based on an outdated paradigm of economic scarcity. We can immediately begin to move beyond all of these age-old problems by recognizing the enormous amount of untapped wealth that exists in the world and leveraging it to everyone's advantage. Once we see that we are drowning in wealth, while searching for money (our own invention), we can begin to create more sensible and sustainable economies the world over.

If, in fact, our inherited framework for economics—scarce resources and unlimited wants and needs—is outdated, then so, perhaps, are other theoretical and practical inheritances from that earlier era where that framework came from. Today's cultural obsession with blaming the rich, the poor, the right, the left, the military, foreign competition and the like prevents thoughtful and intelligent discourse toward new solutions. A common vision of Continuous Economic Improvement for all can transcend the current left-versus-right polarization and the tendency to blame anyone, when in fact this inherited system is overdue for a 21st Century update.

Ledger economics can help us call a truce between the political left and right and the stalemate that prevents innovative solutions from emerging. For Conservatives and Libertarians, ledger economics is completely voluntary and self-funded, as well as business-led, market-based, and profit-driven. For Liberals and Socialists, it offers immediate rather than trickle down benefits and environmentally sustainable rather than growth-based commerce, while closing rather than increasing disparities. By combining this new financial resource with a mobilization of business-community stakeholders, we can end the blame and create a dual-currency, ledger-based, equitable-and-sustainable economy, based on continuous economic improvement [11].

Economics and Politics beyond Left–Right-Compromise	
For Conservatives and Libertarians	**For Liberals, socialists and greens**
100% voluntary: No forced participation by government or other authorities; breaks no rules of free enterprise economics	**Immediate not trickle down:** the available underutilized business community resources
100% self-funding: no need for higher taxes or deeper debt to raise everyone up with the engine of dual currency efficiency	**Equitable:** closing disparities through the mobilization of massive underutilized productive capacity is rapid and inexpensive rather than attempting to close disparities with ever elusive fiat resources

Economics and Politics beyond Left–Right-Compromise	
For Conservatives and Libertarians	**For Liberals, socialists and greens**
Business-led, market-based and profit-driven: Dual Currency Commerce is purely a social entrepreneurial business innovation entering the market making use of new technologies to create greater efficiencies	**Ecologically sustainable:** there is no need for traditional growth when the world is already overbuilt to meet all need across the planet. For example, short-term, food is an abundant renewable resource and global agribusiness wants more customers. This is purely a matter of money and will; not at all about skills, infrastructure, lack of demand, etc. Long-term, we can make communities everywhere self-sustaining and interdependent through shared technologies and sustainability best practices.
For everyone **Mass Customization:** There is no need to fight and suffer over who gets their way regarding controversial issues. The Internet demonstrates that in the high-tech era, a shared platform can also allow everyone to pursue their own interests. In the same way that porn-blocker can be applied to a phone, a computer, or a television, communities of common values can voluntarily choose to participate in customized economies that are "for or against" abortions, drugs; marriage equality; guns; vegan lifestyles; prostitution, and so forth. Why? Because akin to the Internet, if you are willing to follow the protocol to get on, you can do what you want whether it is: e-commerce; pornography; charitable fundraising; art; sports; pro or against environmentalism, free speech, etc.	

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