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The Dollar Game Curriculum: Inspiring Wealth Creation in Rural Communities

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Abstract

Rural wealth creation and local entrepreneurship are emerging economic development approaches that bring back a sense of self-determination to rural communities. However, their potential is often greatly diminished by preconceived and opposing notions within the community on what drives economic growth. The Dollar Game is an innovative curriculum where participants collectively build an understanding of how innovation, income distribution and export affect their communities. Teams play different scenarios, starting with an island economy isolated from grants, subsidies, and trading opportunities and builds to a connected economy where they eventually lose ownership of the local value-chain.

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The Need for an Updated Curriculum in Economics

Many rural communities experienced a steady economic erosion during the past five decades. They often see their best and brightest move away for college, unlikely to return to the limited employment opportunities at home (Carr & Kefalas, 2009). With fewer taxpayers, consumers, and workers, community leaders in these communities are struggling to create (or recreate) a more sustainable base. They are eager to learn about job creation and durable economic growth. The subject of economics has therefore become a more important component in Extension programming, particularly in community development. Examples of programs that have an explicit or implicit component of economic development are entrepreneurship development, farm-to-market, down town revitalization, tourist attraction, and leadership development.

Extension programs can be a considerable investment of time and energy, for both community and Extension. More often than not, they are a commitment at the exclusion of other programming—which, if the program is the wrong fit for a community, can represent a major opportunity cost and

sometimes decades of continued economic erosion. To embrace the right program, community leaders need to understand their local economy, particularly with respect to the dependence on imports and exports, and the different type of job creation that goes with each. How, then, can Extension make economic theory relevant to community and business leaders? How can we inspire individuals to spend time learning about these concepts in relationship to their local economy? Equally important: how can we create a setting where participants keep an open mind? After all, regardless of our background in economics, most everyone has a strong opinion and political bias towards economics.

We made an effort to create a curriculum on community economics that overcomes bias and brings back a sense of (economic) self-determination to communities.

The Dollar Game Pedagogy and Concepts

We set out designing the curriculum using the following requirements:

1. It must function as a "sandbox," an environment to playfully explore concepts and ideas, inspiring individuals to suspend political bias.
2. It must introduce an element of repetition to allow individuals to internalize the complex relationships that drive a local economy.
3. It must demonstrate relevance to a community's situation and allow participants to connect content to their economy.

To meet the first two requirements we chose to develop a scenario game. Scenario games are effective tools in demonstrating relevance and allow for active learning that helps individuals internalize complex relationships in community development (Beurle et al., 2009). They are also more suitable for adult learning (Ota, DiCarlo, Burts, Laid, & Gioe, 2006).

To meet our third requirement, we wanted the curriculum to cover at least the following core concepts.

Core Concept 1: Demand Drives Demand in the Circulation of Money

Yes, needs and wants drive the demand for goods and services, sustain businesses in the community, and offer jobs. But what the curriculum needs to teach is how these demands consolidate into a local economy through a network of interdependencies: the dentist pays the grocer, who pays the plumber, who goes to the dentist; the salary of local residents and the profitability of local businesses drive local demand and tax revenues; taxes allow the local government to operate and invest in infrastructure, further increasing local demand. Paul Krugman captured this concept in one brief sentence: "Your spending is my income, my spending is your income" (Krugman, 2013).

Core Concept 2: The Power of Compounding

The most powerful, but probably least understood concept is the compounding effect in economies. Paul Romer used a modern version of an old parable to demonstrate the power of accumulation by

placing a banker's one-penny investment on the first square of a chessboard, and doubling it each time it moved to a new square—yielding two pennies for the second square, four for the third, 16 for the next, and so on (Romer, 2008). Even though the formula for compound growth is simple mathematics, the resulting \$92 quadrillion dollars (not pennies) always amazes. We consistently underestimate the power of compounding and leverage, whether it concerns investments in our own retirement fund, or public investments in infrastructure, in educational endowment or in talent and experience. A white water park in a community, for example, can provide increased visitation and benefits for the local retail and hospitality, but would be far more economically beneficial if leveraged by guide services and perhaps gear-related repair or manufacturing activities (Braak, 2012). Local economies would benefit immensely if community leaders include leverage potential in investment decisions.

Core Concept 3: Innovation and Export: The Two Roads to Increased Prosperity

From an economic perspective, the only way to increase aggregate wealth in the economy at large (i.e., all local economies combined) is by increasing productivity. For example, when individuals or organizations learn to produce the same food with less land or inputs, or build roads and houses with the same functionality but with less effort and supplies, it can divert that saved effort into additional output (or an increase in leisure time instead, if that is preferred). In either case, the net gain from "working smarter" represents the increase in wealth (or happiness) in the economy.

If we zoom in on a single community, we can see that a community's wealth can also increase by simply exporting more (value added) services or goods to *other* communities. Every service or good sold to another community, and every additional visitor that the local chamber of commerce can attract brings *new* money and wealth into the community—no innovation or increased efficiencies required.

The curriculum must clearly show these two distinct roads for communities to increase prosperity:

1. Growth-from-within (i.e. increased productivity)
2. Growth through trade (i.e. increase in net exports)

Existing curricula mostly focus on the second growth method. This is, in part, because the analogy that still dominates current outreach depicts an economy as a leaky bucket. The analogy originates from the 1945 writings of British professor Kenneth Boulding (Boulding, 1945), and shows the faucet pouring in *new* money (dollars coming into the community through exports or visitor spending), with the leaks represent money *leaving* the community through importation (Figure 1).

Figure 1.

The 1945 Leaky Bucket Analogy of a Community Economy, as Frequently Used by Economic Development Professionals



To increase prosperity (the water-level in the bucket), one simply increases exports or reduces imports. It is an excellent analogy to show how trade affects a local economy. However, this approach treats the global economy as a zero-sum game, where wealth shifts from one region to another through trade. It fails to show the contribution of local skills to innovation, productivity, and economic growth because these do not bring in "new" money (Shaffer, Deller, & Marcouiller, 2004, p. 64). Although recognizing that trade can greatly augment the size of a local economy, the Dollar Game helps communities understand how local entrepreneurship and wealth creation programs promote economic growth from within through innovation and productivity increase.

Game Structure and Organization

The Dollar Game can be used in workshops and classes with as few as four individuals to play a single economy, and with as many as 30 individuals playing competing economies. We prefer using multiple teams of four to five individuals per team to introduce an element of competition. The upper limit of participants is determined by the facilitator's ability to still manage plenary sessions effectively while keeping the game moving.

Each team represents a simplified economy with a Trading Center, Labor and Material Subcontractors, a Processing Center and a Bank (Figure 2).

Figure 2.
The Game Economy



As in any modern economy, teams experience two exchange flows: a flow of goods and services

(represented clockwise by tokens in figure 2) and a flow of money that represents the perceived value of goods and services (dollars—counter clockwise in Figure 2). The Processing Center becomes the center of wealth creation, which can be nicknamed "farm" or "factory"—anything to clarify the concept. As an example, when we piloted the game in a community with a history of timber, we addressed it as sawmill.

The Color of Money

A key instructional element is that a \$1 banknote can have different colors. There is no functional difference between the dollars; the color only serves to show visually where wealth originates. The starting capital in the game, the *initial wealth* of the community, is issued in grey dollars. Green dollars denote *newly created* wealth through added-value activities; yellow dollars denote *imported wealth* through export goods. Adding new wealth to the economy requires that the game's money supply increases—akin to the increase in money supply by US Federal Reserve when the national productivity increases. A simple mechanism in the game mimics the Federal Reserve. Every time the Trade Center procures a product from the Processing Center (made up by a Labor Token + Material Token + Value Added Token), it exchanges the Value Added Token for a new green banknote with the local bank when it is sold in the local market, or for a new yellow banknote when it is exported. This perfectly synchronizes the money supply with the value of goods and services in the economy.

Local Demand

The purchasing power of the community in the Dollar Game is represented through the wealth of Materials and Labor Providers (the game's "middle class"). We simulate the effect of local demand by linking the demand for products to the sum of the dollars held by the labor and Materials Providers. In other words: the Processing Center can only sell more if the community can actually afford to buy more.

Deconstructing Complexity

The game uses a rapid succession of scenarios to engage the players and allow them to "thin-slice" complex concepts, i.e., internalize insights through game observations that is very difficult to replicate in a traditional classroom setting. The game rounds are designed to raise questions that prime a productive discussion in the round evaluation.

The standard curriculum includes the following six scenarios that incrementally build a more complex economy

The Island Economy

The first set of three scenarios uses an "Island Economy," where the participants play a self-reliant community disconnected from other economies. It cuts off all traditional economic development strategies: there are no outside companies to come in and "bring jobs," no attracting more tourists to save the day for local retail, no grants to finance infrastructure. This environment allows participants to understand intrinsic economic growth (growth-from-within) without the complexity of import and

export. The economy has only one product, demand for which is entirely fueled by the wealth of the community members.

Scenario 1: A Steady State Economy. The first round is a warm-up and introduces the circular flow of money and goods/services. The money only goes around, and we are all "scratching each other's back." This round anchors the concept that "your spending is my income, and my spending is your income." There is no value-added creation within this round, and teams end up with the same wealth (number of grey dollars) with which they started.

Scenario 2: Innovation. This round is about innovation, or "working smarter." Innovation increases productivity, adding more value with the same input, or achieving the same value with less input. Innovation is within reach of every individual, organization, and business, and can be as simple as a streamlined administrative process. In round 2, we introduce a product design change that adds value and makes the community more productive. The value-added component now starts adding new (green) dollars to the community's wealth.

Scenario 3: Wealth Distribution and Consumption. It will not have escaped participants that the processing facility (the farm or sawmill) was the sole beneficiary of the wealth increase in the previous round. This next round shows that wealth concentration is an important issue that can limit local demand. Since the wealth of Materials and Labor Providers determines local demand in the game, economic growth is constrained when they do not share in the wealth increase. The game does not, per se, discuss economic or political solutions for wealth concentration, but shows how a simple profit sharing plan creates a compounding ("win-win") effect for the economy through increased demand.

The Connected Economy

In the next three rounds we introduce the complexities of the modern connected economy where communities trade with each other.

Scenario 4: Export. The community in round 4 is still relatively isolated, but is building a railroad to export product to other communities. The local demand remains a function of local wealth, but the export market is unlimited. The value added from local demand is still exchanged for green dollars, but value added from export is exchanged for yellow dollars. Yellow dollars therefore visibly show the wealth transfer from one community to another. The game's economy grows rapidly in this simulation, showing how attractive (and potentially addictive) export is. This round is especially suitable to discuss sustainability. An export economy can easily become an insatiable conversion machine, which may tempt communities and organizations, especially those with natural resources, to overdraw and stand in the way of more sustainable and resilient local economies (Hill et al., 2010; Sachs & Warner, 2001).

Scenarios 5 and 6: Losing the Compounding Effect. The last two rounds show the effect of wealth transfer to other communities and how it can diminish compounding in the local economy. In round 5 we simulate the transfer of ownership of the local processing facility to another community (e.g., the local mill is purchased by an outside company). It shows how changed ownership can reduce the local economy when profits and dividends (and related investments) now flow through the distant owner

and do not necessarily return to the community. Even with distant ownership of a subsidiary, there usually is a positive economic impact (besides local jobs and purchases), and we simulate this in the game by leaving the value added generated by local demand in the local teams; all value added generated through exports are passed to the distant owner, however. In round 6, we simulate the effect of labor commuting from another community (i.e., residents moving out). Even though companies or employees work in a community, they do not necessarily contribute to the local wealth generation when they are not part of the local community. Commuters frequently take their income and shop where they live. Scenarios 5 and 6 erode the local economy even when employment stays the same, simply because it is losing its compounding effect.

Discussion

There are four pertinent roles that Extension can play in the arena of economic development (Weber, 1987):

1. Provide perspective;
2. Increase the knowledge base;
3. Teach management skills;
4. Shape institutional Structure

The Dollar Game is designed to provide insight into the drivers of a local economy and thus supports only two of these four roles. It is not designed to replace current tools and methods, but to augment them by:

- **Increasing the knowledge base:** The main goal of the Dollar Game is to provide community members with a broader understanding of how their economy works and how alternative development paths affect trade (imports & exports), innovation, and, consequently, local wealth generation.
- **Providing perspective:** Weber states in his 1987 article:

Communities often ask, 'What kind of tax incentive or public investment is most effective in bringing in industry?' They should first ask, 'is bringing in industry the most effective way to increase and stabilize incomes in this community in the long run?' Or, indeed, 'What alternatives exist for improving the income status of the poor and unemployed in our community?' (Weber, 1987).

The Dollar Game can help community decision makers ask the right questions because it brings a better understanding of the local economy. The Dollar Game can also aid in answering contemporary questions: What impact will a large supercenter have on our downtown? How useful is investing in a regional food-corridor?

The game can be used as a front-end module in larger community development programming as well as standalone to help a community explore place-based needs. For example, the game can discuss the

effects of a particular industry locating to the area differences versus local entrepreneurship and wealth creation programs, or the game can stimulate a discussion on a community's comparative advantages. At University of Idaho, the Dollar Game has been used as the front-end module in two large Extension programs: "[Community Coaching for Grassroots Actions](#)" and "[WealthWork Northwest in Idaho](#)".

Limitations

We recognize the Dollar Game leaves out many factors and complexities that underpin a true community economy. Feedback from piloting the game with communities, professionals, students, and educators indicated that the game still conveyed the concepts well in spite of its limitations. The game was piloted with Extension educators in Idaho and at the 2014 Western Rural Development Center's Community Development Extension Institute. After peer review by colleagues from Utah State University, Oregon State University, and within the University of Idaho Extension, the game is now accepted as a formal curriculum within the University of Idaho.

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