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PROGRESS: AN EXPERIENTIAL EXERCISE IN DEVELOPMENTAL MARKETING

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ABSTRACT

The purpose of this game is to help students understand the dynamic role free-market processes play in stimulating economic development. The game simulates a developing economy. Each of the students represents an independent economic entity, able to contribute labor, consume goods, and acquire wealth. It is played in periods, with each one representing a cycle of production and consumption. Students are free to act independently, or to collaborate, to invest or save money, to innovate or produce conventional products. In the end, they are evaluated according to the wealth they create. More important, they experience the combined effect of their decisions in creating wealth for society as a whole.
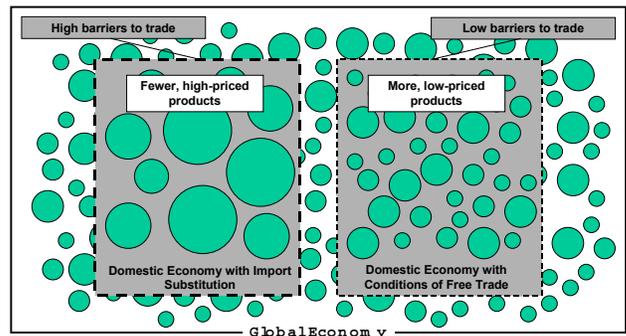
INTRODUCTION

The theory of free-market economics explains how countries develop naturally, if left to natural market forces. From the perspective of managers and policy makers who participate in this process, the effect of these forces is usually hard to see. And because it is hard to see, it is hard to act upon. Rather, the managers and policy makers tend to look to government intervention to facilitate growth. While this often solves specific problems – the investment or market needs of a specific firm at a specific point in time – the overall effect is usually negative. Most commonly, it is to adopt a policy of *export substitution*, or the protection of domestic industry with tariffs and other barriers to trade, thus creating a buffer against competition while industry develops.

The problem with this approach is that *import substitution* tends to make domestic businesses less, rather than more, competitive. It takes away the natural market incentive to innovate and cre-

ate higher quality, lower cost products to beat the competition. The barriers to trade necessitate higher prices for imports. This, in turn, enables domestic producers to charge higher prices as well. The apparent effect on domestic business, and the creation of jobs, is positive. Domestic companies make money, and people are employed. But the actual effect is to depress the overall standard of living. The higher prices mean people pay more money for fewer products and services (Exhibit 1). Furthermore, in the long run, employment generally suffers as well, given the vital role innovation plays in creating new jobs.

EXHIBIT 1
THE EFFECT OF IMPORT SUBSTITUTION ON THE QUANTITY OF GOODS AND SERVICES AVAILABLE

One potential solution is education. If managers and policy makers truly understand how the free-
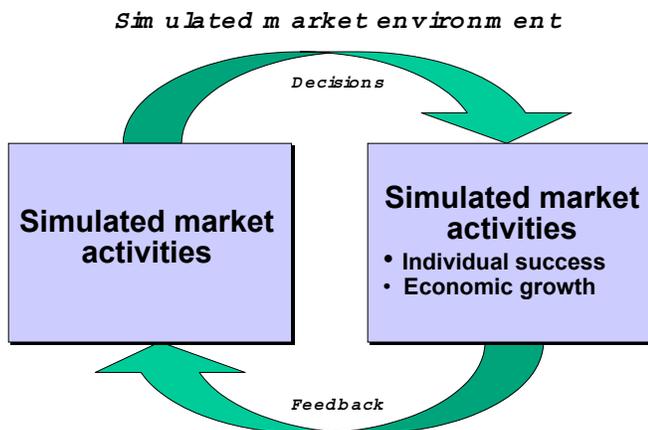

market system operates, they are more likely to support free-market policies over those of *import substitution*. The question is how to educate managers and policy makers. As we have just pointed out, theory notwithstanding, simple logic and immediate experience seem to favor an *import substitution* policy.

The purpose of this paper will be to describe an

experiential exercise designed to teach the principles of free enterprise and market development. Following the logic articulated by Gentry (1990), the paper provides a process by which students can become much more involved in the concepts they are learning, thus internalizing them in more meaningful ways. It has the advantage of being "participative," of providing "contact with the environment" and of combining "the processes of learning with the content of learning" (Hoover 1974). More to the point, it provides a method for providing a kind of synthetic experience, through which students get immediate feedback regarding the effects of their behavior (Lewin 1951; Wolfe and Byrne 1975; Kolb 1984).

EXHIBIT 2
THE FEEDBACK EFFECT OF
EXPERIENTIAL LEARNING

Sim ulated m arket environm ent

As Exhibit 2 suggests, students operate within a simulated market environment in which they make decisions regarding how to use their resources. These will result in both personal and collective economic success, thus giving students immediate feedback regarding the effect of their behavior. Simulation is designed so that the feedback they receive will parallel the effects of similar actions in a real market environment.

The purpose of this game is to help students understand the dynamic role free-market processes play in stimulating economic development. The game simulates a developing economy. The students represent independent economic entities – laborers, entrepreneurs, merchants or whatever other role they choose to play. They are able to provide labor, acquire satisfaction by consuming goods, and acquire wealth with which they can purchase or produce goods in the future, just as they would in a real economy.

The game is played in periods, which we might think of as years. Each one represents a cycle of production and consumption. They offer check points at which to evaluate student progress. They also simulate the passage of time, through which the economy evolves from a primitive to an economically advanced state of development.

Most important, the nature and speed of economic development depends on the way students play the game. They are free to act independently or to collaborate, to innovate or produce conventional products, to invest or save money, to consume or forego consumption in anticipation of future gains. As with a real economy, they stand to gain from the development of collaborative enterprises, evoking economies of scale and the use of capital to increase productivity. These gains will be reflected both in personal wealth and the overall development of society. The fact that students must make the proper decisions and observe the related consequences is what provides the feedback mechanism illustrated in Exhibit 2.

OBJECTIVES OF THE GAME

From the students' perspective, the objective of the game is to maximize personal satisfaction, achieved in this game by consuming goods. By making game decisions in pursuit of this objective, students should come to understand and appreciate:

- ❑ The process through which a society creates wealth.
- ❑ The trade-off between consumption and investment decisions.

- How economies of scale and the application of capital contribute to wealth.
- How development tends to be synergistic (a non-zero-sum game).
- The nature and importance of collaborative competition in a free market economy.
- The role of labor, capital, and entrepreneurial effort in economic development.

By making relatively small modifications in the game, it can be made to address other issues as well. For instance, one might introduce a governmental component to illustrate the positive and negative impact of various types of government intervention. Or, the objectives can be modified to include the creation of wealth as consumption as a criterion of success. This would place more weight on the intrinsic rewards coming from the process of economic activity as opposed to treating economic activity as simply a means to an end. These are only two of many possible variations. However, this paper will focus on the basic game, designed to address the objectives shown above.

DESCRIPTION OF THE GAME

As noted above, the game simulates a market place in which players use or sell labor and products in an effort to create wealth, and ultimately, create satisfaction through the consumption of products. The game is played in a series of periods, each representing a cycle of production and consumption.

In order to distinguish between satisfaction and wealth, satisfaction will be measured in *sats*. Wealth will be measured in money, or *credits*. The two are interchangeable in the sense that a player can use *credits* to buy products, which can then be consumed to acquire *sats*. However, *credits* have no intrinsic value. That is, players are not rewarded for acquiring *credits*, just *sats*. Conversely, *sats* only have intrinsic value. While they are the measure of success in the game, they cannot be spent, invested or transferred to another player.

Playing the Game

The actual play of the game consists of a series of transactions. These vehicles through which these are recorded is the *transaction log*. Exhibit 3 provides a sample log for a hypothetical player, N01. The log illustrates how the game is played.

EXHIBIT 3
SAMPLE TRANSACTION LOG FOR PLAYER N01

Period	Exchange Partner	Machines Change	Machines Balance	Labor Change	Labor Balance	Product Change	A	B	C	D	E	Credits Change	Credits Balance	Sats Change	Sats Balance
1					1		0	0	0	0	0				
1	N15			+1	2		0	0	0	0	0	-15	(15)		
1	N21			+1	3		0	0	0	0	0	-15	(30)		
1	N23			+1	4		0	0	0	0	0	-20	(50)		
1	Prod			-4	0	+A16	16	0	0	0	0		0		
1	N02				0	-A10	6	0	0	0	0	+120	70		
1	Bank					-A05	1					+50	125		
1	Cons				0	-A01	0	0	0	0	0			+10	10
2	New			+1	1								125		
2	Mach	+1	1									-150	(25)		
2	N15		1	+2	3		0	0	0	0	0	-20	(45)		

2	N21		1	+1	4		0	0	0	0	0	-20	(65)		
2	N23		1	+1	5		0	0	0	0	0	-20	(85)		
2	Prod		1	-5	0	+A20	20	0	0	0	0				
2	N02		1		0	-A15	5	0	0	0	0	+195	110		
2	N02		1		0	+B01	5	1	0	0	0	-20	90		
2	N02		1		0	+C01	5	1	1	0	0	-20	70		
2	N05		1		0	+D02	5	1	1	1	0	-20	50		
2	N05		1		0	+E02	5	1	1	1	1	-20	30		
2	N05		1		0	-A04	4	1	1	1	1	+40	70		
2	Cons		1		0		0	0	0	0	0		70	+70	80
3			1	+1	1								70		80

1. *Maintaining the Transaction Log*. The basic organizational tool is each player's *transaction log* (Exhibit 1). The *log* records all transactions, ONE PER LINE. Specifically, the log includes the following information:

   ❑ *Period* refers to the *period* in which the transaction takes place.

   ❑ *Exchange Partner* refers to the *player* (if any) with whom the transaction takes place. (Note that all players will have a name: N01, N02, N03, etc.). In the example, during period 1, player N1 engaged in transactions with players N15, N21, N23, and N02. The *log* also shows "new" to signal a new period, "prod" (exchange of labor for production), "cons" (exchange of products for *sats*), "bank" (redemption of products for *credits*), and "mach" (exchange of *credits* for a machine).

   ❑ *Machines* enable a player to increase the efficiency of a unit of labor. Each machine costs 150 credits and doubles the effectiveness of exactly one unit of labor each period. For instance, owning a machine at the beginning of a period means that the player begins with two rather than one unit of labor. In Exhibit 1, Player N01 purchased a machine at the beginning of period 2, thus increasing the value of the labor purchased from Player N15 from 1 to 2 units. If a player has more machines than labor, more than one machine can be associated with each labor unit. Two machines make one unit of labor the equivalent of three, three the equivalent of four, and so forth.

   ❑ *Labor* refers to the *balance* of available *labor* and (if this is a *labor* transaction) the amount of *labor* used or received. In the example, player N1 purchased labor from players N15, N21, and N23.

   ❑ *Product* refers to the *balance* of available products (A, B, C, D and E) and (if the transaction involves *products*) the amount used or received. In the example, player N01 uses its four units of labor to produce 16 units of Product A. The amount of product that can be produced with four units of labor is shown in Exhibit 4.

EXHIBIT 4
PRODUCTION VOLUME FOR DIFFERENT LEVELS OF LABOR INPUT

Labor	Production*	Labor	Production
1	1	6	23
2	4	7	25
3	9	8	26
4	16	9	27
5	20	10	28

*These economies of scale only apply to production of multiple units of the same type of product (e.g. two units of labor can product four units of A or four units of B, but not one unit of A and one unit of B).

❑ *Credits* refer to the *balance* of available *credits* (money) and (if the transaction involves *credits*) the amount used or received. In the example shown in Exhibit 3, player N01 purchases labor from players N15, N21, and N23 for 15 *credits* for the first two units, and 20 *credits* the last, in period 1. She sells the 15 units of Product A for 5 *credits* each, or a total of 75 *credits*.

2. **Creating Labor**. All players will receive one unit of *labor* each period, which they may use or sell. IT MAY NOT BE STORED. If not used in the period received, it will have no residual value. To sell it, they must enter it in a *transaction log* for both buyer and seller, along with the corresponding transfer of credits. To use it for production, the use and resulting *products* should be indicated in the *transaction log*.

3. **Creating Credits**. Players have an unlimited line of bank credit. That is, they may borrow any amount they wish to finance their operations, providing they pay off their loans by the end of any period. They may pay off their loans with *credits* received from other players, or they may create money by exchanging products for *credits*. The exchange rate is fixed at 10 credits per unit, regardless of its type (A, B, C, D, or E). Players may exchange as many units as they wish at this rate.

4. **Consuming Products**. Consuming products is how players create utility, or satisfaction (*sats*). Exhibit 5 shows the *sats* consumers derive from consuming different kinds of products. Note that consuming multiple units of the same kind of product yields lower utility than a variety of products. This creates an opportunity for marketers to create value through the development of product assortments.

EXHIBIT 5
CONSUMPTION VALUES

Single Type		Combination		Double Combinations		Triple Combinations		Quadruple Combinations	
Units[1]	Sats	Units[2]	Sats	Units[3*]	Sats	Units[4*]	Sats	Units[5*]	Sats
1	10	2	25	2	45	2	55	2	60
2	15	3	40	3	70	3	85	3	93
3	18	4	55	4	95	4	115	4	125
4	20	5	70	5	120	5	145	5	158

[1] Units refer to multiple units of the same product.

[2] Units refer to combinations of different products (e.g. A+B, A+B+C, etc.).

[3] Units refer to pairs of the combinations shown in the chart to the left of this one.

[4] Units refer to three of the combinations shown in the chart to the left of this one.

[5] Units refer to four of the combinations shown in the chart to the left of this one.

5. **Determining the number of periods of play**. Theoretically, the game could continue indefinitely. In practice, it will be limited by the setting in which it is used. For instance, in a typical 15-week semester, the game might continue for 10 rounds. This would provide time in the beginning of the class to introduce the game, perhaps with a period in which to practice. It would also provide a period to debrief, once the game is finished

6. **"Winning" the Game**. There are no "winners" and "losers" in the game in the competitive sense. This is critical to the concept. All the players seek to maximize their personal satisfaction, as measured by the total number of *sats* acquired. This is not a "zero-sum" game. Indeed, when players act competitively, in the "zero-sum" sense of the word, everybody tends to do more poorly. The notion of a non-zero-sum game is critical

to student learning, because a "zero-sum" mentality is one of the major barriers to economic development.

From a very practical perspective, the best way to manage "winning" is to evaluate players on the way they play rather than the actual results. The game administrator can often evaluate the quality of play by reviewing the actual decisions once the game is over.

The administrator can evaluate the overall results of the game by comparing it to performance norms developed over a number of games. Because they are potentially sensitive to the number of students playing the game, game administrators should take care to record the actual conditions under which each game is played.

DISCUSSION

If the game truly simulates the natural development of free-market economies, the evolution of students' activities across periods should follow the same kind of pattern we see in real life. This, in turn, should set the stage for discussing the principles behind this development. The purpose of this section will be to discuss some of the general principles illustrated in the game, offering them as a basis for teaching material.

Robert Keith (1960) provides a useful starting point with his insightful analysis of how the marketing function evolved at Pillsbury Company. Cannon and Yaprak (1998) elaborate on Keith's work, providing a much richer theoretical analysis of the principles implicit in his discussion. They summarize them in Exhibit 6. The first two columns describe the typical evolution of marketing in developing economies in general. The third explains the kind of player response that tends to be most successful in the corresponding stages of development in the game.

The Production Era

In the beginning, none of the players have much money, so the emphasis is on low-cost, mass production. This is achievable in the game, providing players are willing to sell their labor to other players who specialize in manufacturing the various products, and providing there is a market for the products once they have been produced. This creates a natural need for the development of wholesalers to buy products and distribute them in the desired assortments to the people who need them. This is essentially what happened in America during Pillsbury's "production era." Large mills could produce large amounts of low-cost flour, but they depended on wholesalers who were familiar with the shipping and rail schedules, and who had contacts with large numbers of retail outlets.

In the simulation, students will generally discover the advantage of low-cost manufacturing, but they often miss the importance of wholesalers. The game progresses much more quickly if students establish a wholesale structure – players that specialize in buying and selling products -- to facilitate distribution. In Exhibit 3, Player N02 appears to have established himself as a wholesaler. One useful teaching technique is to point out the importance of the wholesale function and let students experiment with using it.

The Sales Era

The "production era" passes when supply catches up with demand, and competition begins to drive prices downward. Exhibit 7 illustrates why this happens. Companies that develop low-cost products early in the game tend to enjoy high "economic profits," due to the relative lack of competition. This leaves the market in a state of *disequilibrium*, where other companies will see an advantage in producing basic products. As companies begin to copy the successful production strategies, market alter

natives make demand more elastic and drive the market toward *equilibrium*.

EXHIBIT 6
STAGES OF ECONOMIC DEVELOPMENT

Era's Defining Characteristics	*Key Market Needs*	*Successful Game Strategies*
Production Era. Rapid urbanization or transition to a free market has created a large working class with relatively low income.	♦ Low-cost manufacturing ♦ Effective wholesale distribution	♦ Purchase labor to develop economies of scale ♦ Buy and resell products
Sales Era. Saturation of basic need for commodities.	♦ Product differentiation based on quality, variety, and convenience	♦ Exploit product and/or purchasing advantages to create "combination" products
Marketing Era. Saturation of differentiated mass-market products.	♦ Market segmentation based on specialized customer orientation	♦ Focus resources to develop advantages in specialized products
Marketing Control Era. Saturation of segment-related needs.	♦ Service of customer need assortments through relationship marketing	♦ Establish efficient production for "families" of products ♦ Establish efficient customer relationships

The relatively low "normal" profits available during equilibrium drive companies to look for new, less competitive marketing opportunities. In practice, this tends to take the form of *product differentiation* (Smith 1956), an appeal to the mass market, based on differences in quality, variety and convenience. This, in turn, throws the market back into a state of *disequilibrium*.

In the game, differentiation takes the form of products that consist of combinations of different basic products. These offer greater value to consumers (see Exhibit 5). Of course, with good distribution, players can create these products for themselves by simply buying or producing and combining individual products. To sell "differentiated" products, companies must be able to draw on production advantages or better sources of supply to offer "ready-made" combinations at competitive prices.

Again, this strategy might not be obvious to students early in the game. However, once it has been pointed out, they tend to react quickly by packaging products that capitalize on their relative strengths and market opportunities driven by students' desire to accumulate more *sats* for their expenditures of credits.

The Marketing Era

Just as competition drives the market from the *production* era to the *sales era*, competition also drives the market from the *sales* to the *marketing era*. Again, Exhibit 7 describes the mechanism. While product differentiation tends to be very profitable, its profitability tends to draw competition, thus moving the market back toward equilibrium. Eventually, the competition becomes sufficient to drive marketers in search of another, disequilibriating strategy. The strategy is *market segmentation* – focusing on a smaller, more specialized market in which the marketer can again achieve a market advantage.

A similar pattern can be applied to the simulated environment of the game. While "combination" products initially prove highly profitable, as competition increases, price competition tends to drive down prices and narrow the margins. While some players will be able to make money in the "combination market," others will be forced to specialize in single- or dual-product combinations in order to focus their resources.
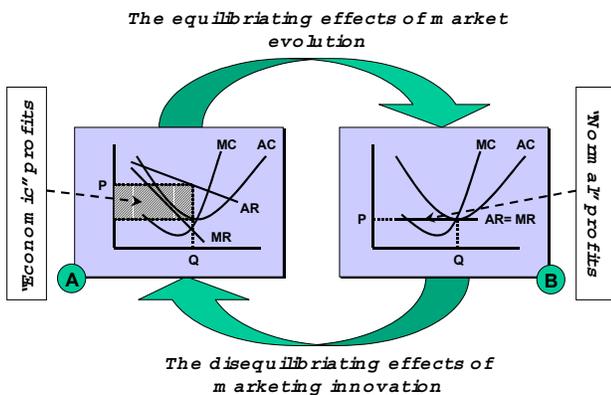
The Marketing Control Era

The process of market saturation and innova-

tion – equilibrium and disequilibrium – shown in Exhibit 7 is an on-going continual theme. Just as the mass market becomes saturated with differentiated products, so segments will also become saturated as market development continues. In the *marketing control era*, not only do the segments fill up with product alternatives, but the speed with which competition responds tends to accelerate, shortening product life cycles and driving more and more products into the maturity stage of their product life cycles. Consumers become more sophisticated, and hence, more demanding, thus intensifying the competition.

EXHIBIT 7
THE ROLE OF MARKETING IN
MARKET EVOLUTION

The equilibriating effects of market evolution

The disequilibriating effects of marketing innovation

In response to this situation, firms in the *marketing control era* shift their focus from addressing specialized customer needs to developing systems for efficiency addressing groups of customer needs. Robert Keith referred to it as the "control era" because of the need to control the scope of marketing activities to address areas of the market in which the company could maintain a unique competitive advantage. Price competition becomes so keen that only the most efficient marketers can survive.

One of the key elements of market efficiency is to develop sophisticated systems of relationship marketing as well as production planning. When the market becomes sufficiently mature,

virtually all the major competitors will be able to offer equivalent products at equivalent prices. In this environment, customers have no incentive to change suppliers except to achieve relatively small, short-term advantages. The benefits of these tend to be outweighed by increased transaction costs -- the costs of realigning the buying process to take advantage of promotional deals.

This too has an analog in the game environment. A critical strategy for success would be to build an organization with highly efficient sources of production/supply and similarly efficient customer arrangements. As the game progresses, we would expect labor to become relatively more expensive, being bid up by the production needs of a small number of highly efficient manufacturers. The high wages will create an on-going market for *sats*-producing products. Building stable relationships tends to facilitate the purchase of labor and component products, the sale of "combination" product assortments, and the purchase of labor.

Again, students may take some time to discover this themselves. Using it as a basis for discussion can accelerate the progress of development within the game environment. More important, of course, is the fact that it helps students understand the underlying principle behind the game – a principle that was designed to mirror marketing reality.

SUMMARY AND CONCLUSIONS

Progress is a prototype game. It needs an ongoing program of testing to determine whether it truly works in the manner discussed in this paper. The promise, however, is exciting. While the game is very simple, it provides a powerful way to teach principles that are difficult to appreciate when presented through conventional, non-experiential methods.

The game promises two other potential benefits: First, as we intimated earlier, it can be easily modified to simulate other economic effects.

These include government regulations, taxes, financial markets, multiple player objectives, among others. For instance, the simple addition of posted rankings of accumulated *sats* and/or *credits* would change the intensity with which students are likely to pursue satisfaction and/or wealth. Providing a group a few elected "legislators" would provide a rich laboratory for exploring the potential strengths and weaknesses of government activity.

This leads to the second promise: Not only is the game a laboratory for students, but it can also serve as a research laboratory for exploring how people respond to different types of economic stimuli. For instance, how do cultural norms affect economic development? What effect does education have – both educational level and specific teaching interventions? What kinds of government interventions are most likely to stimulate economic development? These are all important topics in marketing and economic development. The game promises to create an important new source of relatively inexpensive data.

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