

Texas A&M 2/6/2018

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Education Reform

Replacing Supply and Demand Economics
with Financial Literacy

1. Problems
2. Opportunities
3. Responsibilities

Excerpts from the book:

*The Truth About Economics, Critical Thinking Guide for Students, Parents,
Teachers, and Citizens.*

Problems:

Historical Opposition to Supply and Demand Theories from 1890

H.L Moore 1914

John Maynard Keynes 1926

Pierre Sraffa 1926

Kenneth Galbraith, 1948

Joan Robinson 1960's

Robert Heilbroner 1995

Ronald Coase 1997 (Nobel prize winner 1991)

Daniel Kahneman, 2000 (Nobel Prize winner 2002 for theory refuting supply and demand)

Frederic Lee 2009

Steven Keen 2011

Peter Fader 2012

Thomas Pickety 2013

Motley Fool current day

Even Alfred Marshall, the father of supply and demand theory, acknowledged that the underlying assumptions were “impracticable”. (letter dated 1912)

In the 1940's, John Von Neumann insisted at a seminar at Harvard that progress in economics would require a mathematics different from that which derived from the time of Newton.

Problems:

Failure to Follow Scientific Methods

Science relies on observations

Running a business relies on observations from accounting data

Economics makes up the data to fit the model

Comparing Financial Literacy to Economics

From Budgeting and Planning curriculum thread in a financial literacy course

Breakeven Model - Financial Literacy Class							
Price = variable cost + markup = \$5 + \$10 = \$15							
Quantity	Fixed Cost	Variable Cost per Unit	Total Variable Cost	Total Cost	Average Total Cost	Revenue	Profit
1	\$ 50.00	\$ 5.00	\$ 5.00	\$ 55.00	\$ 55.00	\$ 15.00	\$ (40.00)
2	\$ 50.00	\$ 5.00	\$ 10.00	\$ 60.00	\$ 30.00	\$ 30.00	\$ (30.00)
3	\$ 50.00	\$ 5.00	\$ 15.00	\$ 65.00	\$ 21.67	\$ 45.00	\$ (20.00)
4	\$ 50.00	\$ 5.00	\$ 20.00	\$ 70.00	\$ 17.50	\$ 60.00	\$ (10.00)
5	\$ 50.00	\$ 5.00	\$ 25.00	\$ 75.00	\$ 15.00	\$ 75.00	\$ -
6	\$ 50.00	\$ 5.00	\$ 30.00	\$ 80.00	\$ 13.33	\$ 90.00	\$ 10.00
7	\$ 50.00	\$ 5.00	\$ 35.00	\$ 85.00	\$ 12.14	\$ 105.00	\$ 20.00
8	\$ 50.00	\$ 5.00	\$ 40.00	\$ 90.00	\$ 11.25	\$ 120.00	\$ 30.00
9	\$ 50.00	\$ 5.00	\$ 45.00	\$ 95.00	\$ 10.56	\$ 135.00	\$ 40.00

Data comes from accounting

Student determines minimum quantity that must be sold to assure profitable business. More sales means more profits.

Comparing Financial Literacy to Economics

Marginal Cost Model - Economics Class					
Quantity	Fixed Costs	Marginal Cost Per Unit	Variable Cost	Total Cost	Average Total Cost
0	\$ 3.00		\$ -	\$ 3.00	#DIV/0!
		\$ 0.30			
1	\$ 3.00		\$ 0.30	\$ 3.30	\$ 3.30
		\$ 0.50			
2	\$ 3.00		\$ 0.80	\$ 3.80	\$ 1.90
		\$ 0.70			
3	\$ 3.00		\$ 1.50	\$ 4.50	\$ 1.50
		\$ 0.90			
4	\$ 3.00		\$ 2.40	\$ 5.40	\$ 1.35
		\$ 1.10			
5	\$ 3.00		\$ 3.50	\$ 6.50	\$ 1.30
		\$ 1.30			
6	\$ 3.00		\$ 4.80	\$ 7.80	\$ 1.30
		\$ 1.50			
7	\$ 3.00		\$ 6.30	\$ 9.30	\$ 1.33
		\$ 1.70			
8	\$ 3.00		\$ 8.00	\$ 11.00	\$ 1.38
		\$ 1.90			
9	\$ 3.00		\$ 9.90	\$ 12.90	\$ 1.43
		\$ 2.10			
10	\$ 3.00		\$ 12.00	\$ 15.00	\$ 1.50

This example comes from a Texas HS Economics book.

Economist: Marginal Cost = The additional cost for one unit.
 Accountant: Variable Cost = Cost that varies with production.

Notice the Variable Cost column is the sum of all marginal cost. In the break-even model this column is labeled total variable cost. The column label is inaccurate and confusing.

Marginal cost data does not come from accounting. It is made up.

Marginal cost = $\$ 0.1 + \$ 0.2 Q$
 Variable cost = $\$ 0.2 Q + \$ 0.1 Q^2$

Thus Von Nuemann's reference to "Newtonian Math". Never seen in real life

Student determines quantity that has the lowest average cost

Students are taught that selling more than this amount will cause losses for the business.

College Textbooks have the same problem with fabricated data.

Profit Maximizing Data from a Texas A&M Textbook					
Quantity	Total Revenue	Total Costs	Profit	Marginal Cost	Quadratic Model = $Q^2 - 7.5Q + 25$
0	\$ -	\$ 2.00	\$ (2.00)	\$ -	
1	\$ 4.00	\$ 5.00	\$ (1.00)	\$ 3.00	
2	\$ 8.00	\$ 7.00	\$ 1.00	\$ 2.00	
3	\$ 12.00	\$ 8.50	\$ 3.50	\$ 1.50	
4	\$ 16.00	\$ 10.50	\$ 5.50	\$ 2.00	\$ 11.00
5	\$ 20.00	\$ 13.00	\$ 7.00	\$ 2.50	\$ 12.50
6	\$ 24.00	\$ 16.50	\$ 7.50	\$ 3.50	\$ 16.00
7	\$ 28.00	\$ 21.50	\$ 6.50	\$ 5.00	\$ 21.50
8	\$ 32.00	\$ 28.50	\$ 3.50	\$ 7.00	\$ 29.00
9	\$ 36.00	\$ 38.00	\$ (2.00)	\$ 9.50	\$ 38.50
9	\$ 36.00	\$ 50.50	\$ (14.50)	\$ 12.50	\$ 50.00

Notice the total cost column closely mirrors a quadratic equation. No explanation is given for why the marginal costs vary from bushel to bushel. From the book:

“A wheat farmer has many costs, including the cost of seed and fertilizer and the wages for farm workers.”

No explanation for why the fixed costs are only \$2.00.

Students do not learn anything related to the real world.

A student with critical thinking skills will ponder a question “When does a farmer ever turn down the opportunity to sell more bushels of wheat?”

Problems:

Failure to Follow Correct Mathematical Methods

The physical sciences use mathematics as an integral part of their theories that explain and predict physical phenomenon.

Economics misuses mathematical concepts to justify economic theories.

Closer examination shows that economic predictions using improper methods arrive at incorrect answers for someone running a business.

Marginal Product of Labor – Economist’s View

Labor	Output	Marginal Product of Labor	Value of the Marginal Product of Labor	Wage	Marginal Profit
L (number of workers)	Q (bushels per week)	$MPL = \Delta Q / \Delta L$ (bushels per week)	$VMPL = P \times MPL$	W	$\Delta Profit = VMPL - W$
0	0				
1	100	100	\$1,000	\$500	\$500
2	180	80	800	500	300
3	240	60	600	500	100
4	280	40	400	500	-100
5	300	20	200	500	-300

Ch 5 Figure 21 Mankiw’s Marginal Product of Labor

Marginal product of labor predicts 3 workers is the proper level of staffing to maximize profit.

Errors leading to incorrect solution:

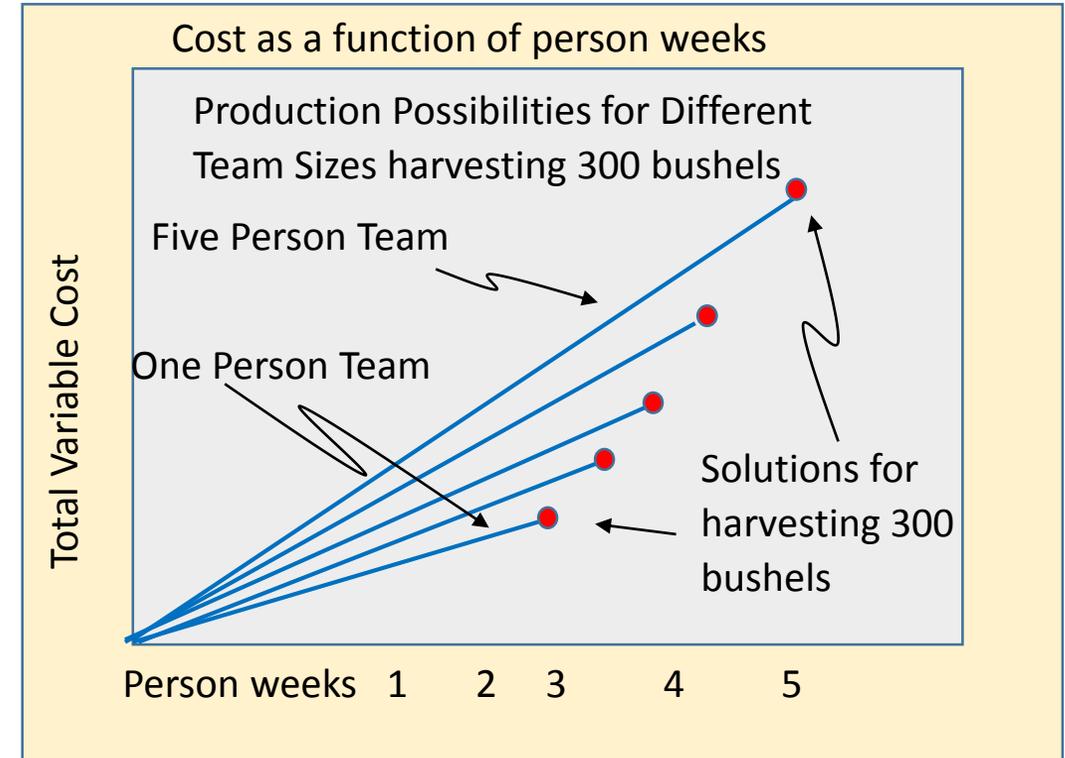
1. Production is not driven by number of workers, it is driven by the product of workers and time, aka Person weeks.
2. Productivity of the work force coupled with person weeks determines level of production.

Output as a Function of Person Weeks and Productivity

Productivity based upon team size using same data in economist view

(1)	(2)	(3)	(4)	(5)	(6)
Number Of Worlcers	Team Productivity: Bushels per week	Productivity Bushels per Man Week	Weeks to Harvest 300 Bushells	Person Weeks to Harvest 300 Bushels	Cost at \$500 per person week
1	100	100	3	3.00	\$ 1,500
2	180	90	1.67	3.33	\$ 1,667
3	240	80	1.25	3.75	\$ 1,875
4	280	70	1.07	4.29	\$ 2,143
5	300	60	1.00	5.00	\$ 2,500

Ch 5 Figure 22 Productivity Table



Ch 5 Figure 23 Cost Functions by Team Size

Standard business practices that focus on labor productivity show 5 different solutions dependent upon the productivity of the five different team sizes. The one person team is the least costly and provides the most profit. NOT the 3 person team as suggested by the economist.

Economists have confused productivity with production.

Problems:

Many other issues are identified in the book:

1. Marginal revenue and model for monopolistic competition (Ch 5)
2. Circular cash flow, (circa 1750) the first model referenced in most economics textbooks. (Ch 6)
3. Opportunity cost, (circa 1776) an oddity to avoid discussion about profits (ch 6)
4. Diminishing returns – economist confuse the concepts of productivity and return. (ch 6)
5. Moral Hazard in the A&M textbook is inadequately discussed focusing on Bernie Madoff and workers shirking their responsibilities. No mention of moral hazard related to profiting on loan origination and passing the risk on to unsuspecting investors as experienced in the 2008 financial crisis. Failed opportunity to learn from our mistakes.
6. Supply and demand curves do not exist. Using them to model economics is not a good idea. (Ch 7)

Opportunities

Things our students will learn in a Financial Literacy class

1. Budgeting and planning for financial needs
2. Strategies and methods for saving and investing
3. Proper uses of credit and the risks associated with too much debt
4. Reading product markets and understanding how to stretch a dollar
5. Career choices and relation to earning potential
6. Risk, Insurance, wills and other legal matters
7. Housing and homeownership as an investment
8. Taxation, commonwealth, social security, and retirement.

A one semester course could cover most of the topics mentioned above. A second semester could offer further information based upon how a University/student would like to expand the knowledge base.

Pushing this class to the high school level would allow ALL citizens to benefit from such a class.

Opportunities

Consumers have been confused with the concept of free markets. Very few markets are free. What really matters is if markets are fair.

A new model for fair markets considers six factors to determine effect on price. Details are in chapter seven, “Replacing Supply and Demand Curves”.



Seller's Market

1. Choices restricted in some manner
2. Must Have Items, High Perceived Needs, High Emotional Sentiment
3. Knowledge, complex product
4. Time, perceived or real urgency to buy
5. Personal Assertiveness – influential sales staff
6. Variations in flow – high growth rate, shortage, fixed quantity

Buyer's Market

1. Many choices, products, providers
2. Low perceived need, purchase can be foregone
3. Knowledge: Familiar product
4. Time, urgency to sell
5. Personal Assertiveness – buyer who is willing to negotiate or shop
6. Variations in flow – low growth rate, surplus

Prosperity

Prosperity only comes to people that work hard and understand how to manage their finances and navigate a competitive economic environment. Teaching our students financial literacy provides a better set of knowledge and skills for achieving prosperity than an economics class.

Obstacles to prosperity

1. Current high school graduation requirements specify Economics not Financial Literacy.
2. AP test credit at most major universities provides a college education subsidy of up to \$5,000.
3. Lack of information for parents and students on the advantages of financial literacy.
4. Lack of leadership in the academic system to fight for what our children need.

Responsibility

I believe A&M views itself as a paternalistic University that truly cares about its students. To properly fulfill this view, Texas A&M should take a leadership role to see that education in the State of Texas is modified for the benefit of every citizen in this state. Continuing to teach a course that claims to be a science yet relies upon confusion and false mathematics seems unethical. A&M can be a world leader by taking the first step for its students and all the citizens of Texas.

Work Required

1. The Texas legislature must pass new laws in the spring of 2019 to change the high school graduation requirements.
2. The Lieutenant Governor's office plays the most crucial role in assuring that the legislation reaches the floor for a vote.
3. The senate and the house each have committees that must propose legislation to change the high school graduation requirements.
4. The State Board of Education and the Texas Education Agency provide a supporting role.
5. Texas A&M can actively support this campaign by changing its policies:
 1. Replace supply and demand economics with Financial Literacy
 2. Ending the acceptance of AP test credit for any HS economics course
 3. Actively promoting this change as a worthy goal for the Texas Public Education System.

This change provides an opportunity to unlock the entrepreneurial spirit for every single citizen of this state.