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SCHOOL OF BUSINESS AND PUBLIC ADMINISTRATION

Volume 17, Issue 1

KERN ECONOMIC JOURNAL

2015 First Quarter

Winner of the Award of Merit from California Association for Local Economic Development

KERN ECONOMIC JOURNAL is a quarterly publication of California State University, Bakersfield. Its purpose is to track local trends and analyze regional, national, and global issues that affect the well-being of Kern County. The journal provides useful information and data that can help the community make informed economic decisions.

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KERN ECONOMIC JOURNAL is a quarterly publication (February, May, August, November) of California State University, Bakersfield. Its purpose is to track local trends and analyze regional, national, and global issues that affect the economic well-being of Kern County. The journal provides useful information and data that can help the community make informed economic decisions. Sources of funding for this journal include university contributions and sponsorship and subscription fees.

Editorial and analytical articles on important local, regional, national, and international issues and trends are invited for *consideration* of publication in the journal. Articles (not exceeding 800 words in length) must be submitted to the Managing Editor in electronic copy. Individual authors are responsible for the views and research results.

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Kern Economic Journal

2015 First Quarter

INSIDE THIS ISSUE:

Cover Photo: *Oil Derricks Pumping Oil in Kern County* **Source**: *Google Images*

About the new editors:

Dr. Nyakundi Michieka is an Assistant Professor in the department of Economics at California State University, Bakersfield. His primary research involves Energy, Environmental Economics, Regional Economics and Food Security. Nyakundi has presented his work at various conferences and has five original research publications appearing in *The Applied Energy Journal*, *Energy Policy Journal*, *The Journal of Regional Analysis and Policy* and *The Journal of Food Distribution and Research*. He also has a book chapter and several working papers.

Nyakundi grew up in Kenya before coming to the United States of America. He obtained his undergraduate degree in Mechatronic Engineering from Jomo Kenyatta University of Agriculture and Technology in Kenya before pursuing a Masters degree from East Stroudsburg University of Pennsylvania. He then received his Ph.D. in Natural Resource and Environmental Economics from West Virginia University. Nyakundi's Ph.D. dissertation was a study of the production and consumption of coal in China. The main goal of the study was to decompose China's macro-economy into coal consuming sectors, then analyze and forecast each sector's use of coal. Using time series analysis and spatial econometrics, he compiled a report on China's coal consumption framework.

Dr. Richard Gearhart is an Assistant Professor in the department of Economics at California State University, Bakersfield. His primary research involves Health Economics, Poverty and Welfare Economics, Labor Economics, and Obesity. Richard has presented his work at various conferences and written a wide variety of original research publications. He is currently working on a book about the link between medical technology and obesity.

Richard grew up in Virginia, obtaining his B.A. in Economics and Psychology at Randolph-Macon College, before heading to South Carolina to obtain his Ph.D. at Clemson University in Health Economics, Public Economics, Labor Economics, and Applied Econometrics. Richard's Ph.D. dissertation was a study about the impacts of medical technology on the prevalence of obesity in the United States, finding that improved medical technology reduces the need for individuals to engage in preventive medicine, allowing themselves to gain weight. He also looked at cross-country comparisons of healthcare systems, finding that policymakers should focus on what certain states are doing correct in the healthcare sphere in an attempt to reform the system, rather than looking at what other countries are doing correctly, as there is too much differences between countries to be able to derive any valid conclusions.

ECONOMY AT A GLANCE!

2015 FIRST QUARTER

RICHARD S. GEARHART III

National Economy[1]

The world's largest economy of more than $16.3 trillion, the United States, grew by 0.2 percent, but at a much slower rate than the real Gross Domestic Product (GDP) growth rate from the fourth quarter of 2014, where real GDP grew by 2.2 percent. Real GDP increased largely because of increases in consumer spending and inventory investment by the non-durable goods manufacturing industry. However, the growth rate was slower than in previous quarters because of a widening trade deficit (indicating a decline in exports), a decline in business investment (largely from declines in mining and oil exploration), and declines in state and local government spending.

Real disposable personal income, which is adjusted for inflation and taxes, increased by 6.2 percent in the first quarter of 2015, highlighting improvements in the national economy. This is compared to a 3.6 percent increase in the fourth quarter of 2014.Though this bodes well for future consumer spending, personal savings as a percentage of total personal income was 5.5 percent, meaning that consumers are saving an ever-increasing share of their incomes.

The Conference Board's Index of Leading Economic Indicators – a measure of future economic activity – improved from 120.5 to 121.4. This improvement indicates continued economic growth over the next six to nine months. Likewise, the University of Michigan's Consumer Sentiment Index increased from 89.8 to 95.5, as consumers judged prospects for the national economy to be the best in a in quite a while. Unfortunately, most of the improvement in consumer expectations occurred in January of 2015. The index declined from 98.1 in January of 2015 to 93 in March of 2015, indicating a slightly more negative short-term outlook by consumers.

State Economy[2]

In California, the unemployment rate went down to 6.4 from 6.9 percent. Among counties, San Francisco (3.6 percent), Santa Clara (4.1 percent), Orange (4.4 percent), San Luis Obispo (4.6 percent), San Diego (5.1 percent), and Sacramento (6.0 percent), had unemployment rates below the state average. In contrast, Riverside (6.6 percent), Los Angeles (7.2 percent), San Joaquin (9.5), Kern (11.1 percent), Fresno (11.2 percent), and Kings (11.9 percent) had unemployment rates above the state average.

The state's civilian labor force added 39,667 members, of whom 123,900 secured paying jobs (employed) and 84,233 were left jobless (unemployed). While nonfarm industries hired 117,433 more workers, farming enterprises employed 300 more workers. A wide range of industries added jobs, including construction, retail trade, information, educational and health services, leisure and hospitality, and state government. However, jobs were lost in local government, mining and logging, and manufacturing.

Local Economy

The increase in the unemployment rates, coupled with a 59 unit fall in new business permits and 125 fewer home sales, eroded total personal income in Kern County, which fell by $211 million: an annualized rate of 2.75%. This decrease in personal income in the first quarter of 2015 eroded all of the gains made in the third quarter of 2014. In 2012 dollars, real total personal income in the first quarter of 2015 was slightly more than $30.5 billion

Labor market conditions continued to weaken. Though the labor force increased by 11,743 persons, the number of people unemployed increased by 4,280 persons. This means that nearly 40 percent of entrants into the labor force are unemployed. This increased the unemployment rate to 11.1 percent, an increase of 0.8 percentage points from the fourth quarter of 2014. A large part of the increase in the unemployment rate was decreases in farming employment, oil and gas extraction, and service providing occupations. The rate of unemployment ranged from 5.2 percent in Inyokern to 22.4 percent in California City. In Bakersfield, 9.9 percent of persons in the labor force are unemployed, almost 1 out of every 10.

While the median sales price of houses continued to rise in Kern County to $192,333, eliminating the fall in housing prices in the fourth quarter of 2014, 313 fewer homes were sold in Kern County, compared to the fourth quarter of 2014. Thus, total sales dropped from 2,735 homes to 2,422 homes. In Bakersfield, the median home price increased by $15,600, while home sales fell from 1,895 in the fourth quarter of 2014 to 1,726 in the first quarter of 2015. The ups and downs of the housing market at the same time showcased itself in the amount of foreclosure notices and in the issuance of new building permits. Only 460 new building permits were issued in the first quarter of 2015, compared to 519 in the fourth quarter of 2014. However, the number of loan default

(Continued on page 5)

[1] U.S. economic numbers were obtained from the Bureau of Economic Analysis "U.S. Economy at a Glance". This is found at http://www.bea.gov/newsreleases/glance.htm

[2] The California economic numbers were obtained from the Bureau of Labor Statistics "Local Area Unemployment Statistics Map". This is found at http://data.bls.gov/map/MapToolServlet.

notices sent to homeowners fell by 16 in the first quarter of 2015 compared to the fourth quarter of 2014; compared to the first quarter of 2014, there were 151 fewer notices of mortgage loan default in the first quarter of 2015.

The weighted price index for the five publicly traded companies doing business in Kern County (Sierra Bancorp, Tejon Ranch Company, Chevron Corporation U.S., Granite Construction, and Wells Fargo Company) decreased by from 99.3 in the fourth quarter of 2014 to 96.8 in the first quarter of 2015, a decline of 2.5 percentage points. Chevron (a decline of 7.5 percent), Tejon Ranch (a decline of 9.0 percent), Sierra Bancorp (a decline of 0.4 percent), and Granite Construction (a decline of 0.3 percent) all saw a decline in their stock prices. Only Wells Fargo (an increase of 2.8 percent) saw an increase in their stock price.

The price of gas continued to fall in the Bakersfield metropolitan area, with the average retail price of gas dropping 20¢ per gallon to $2.93 since the fourth quarter of 2014. Compared to the first quarter of 2014, gas prices are down 71¢. The unit price of California's Class III milk dropped precipitously, by $5.46 to reach $15.73. The index of prices farmers received for their outputs dropped by 0.7 points to 99.3, while the index of prices farmers paid for their inputs declined 1.7 points to reach 109.3. The gap between the output prices farmers received and input prices farmers paid increased slightly, improving the situation for farmers.

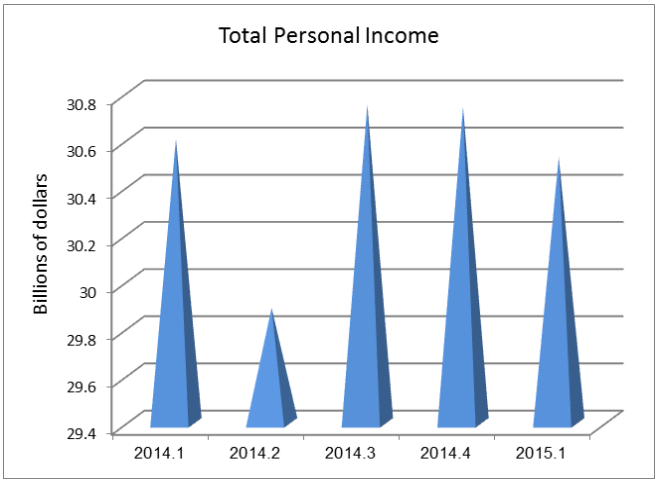
TRACKING KERN'S ECONOMY[3]
2015 FIRST QUARTER

RICHARD S. GEARHART III
PROFESSOR OF ECONOMICS, CSUB

Economy

Personal Income – To be consistent with data on local area personal income published by the United States Bureau of Economic Analysis, we revised our estimation for Kern County's personal income. We calculated personal income as the sum of wages and salaries, self-employment income, rental income, property income, business profit, dividends, interest income, rental income, and personal and business transfer payments. Next, we upgraded our base period for adjustment of inflation from 1996 to 2012.

In our estimation, Kern County's personal income totaled $30.53 billion in the first quarter of 2015. We found this amount to be $211 million lower than that of the previous quarter. The decrease in personal income in the fourth quarter primarily reflected positive contributions from an increased number of employed workers in Kern County. However, these positive contributions were fully offset by negative contributions from property income and profit income. Four quarters ago, personal income was almost $30.6 billion, showing a secular stagnation in Kern County for almost a year.



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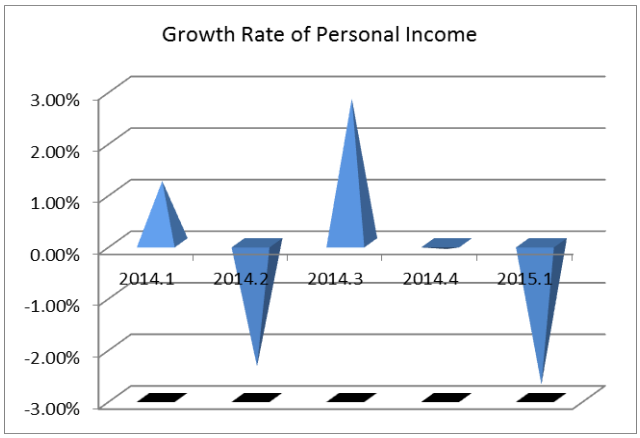
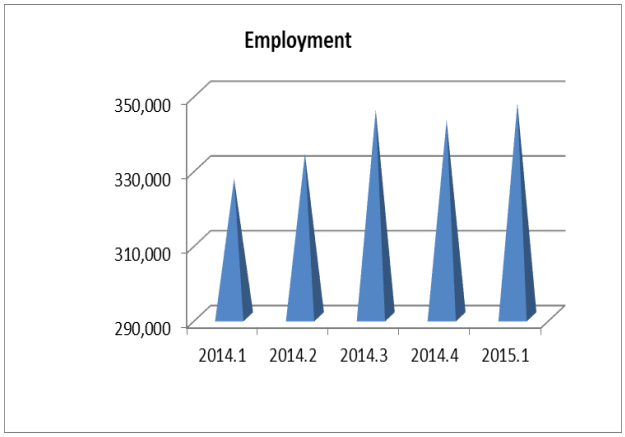
[3] Source – Online databases: labormarketinfo.edd.ca.gov, bakersfieldgasprices.com, dqnews.com, economagic.com, bea.gov, bls.com, census.gov, kerndata.com

Growth of Personal Income – With a relatively large decline in personal income because of only modest gains by labor, Kern's economy showed a modest decline. The loss of $211 million in personal income is translated to an annual growth rate of -2.75 percent. This mirrors trends in the second quarter of 2014, where personal income declined by 2.4 percent, wholly offsetting the gains made in Kern County in the third quarter of 2014.

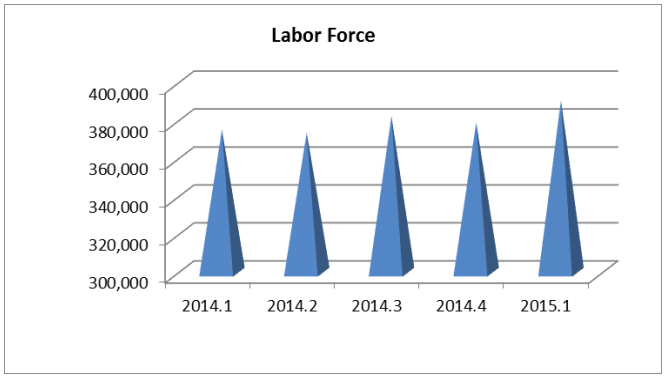




Labor Market

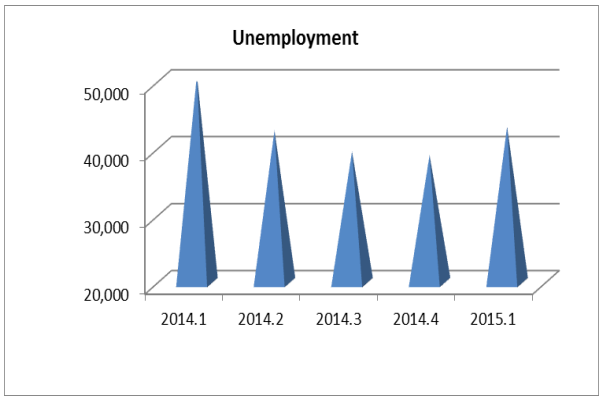
We adjust published data in three ways. Firstly, we averaged monthly data to calculate quarterly data. Secondly, we recalculated quarterly data to take into account workers employed in the "informal" market (i.e., self-employed labor and those who work outside their county of residence). Finally, we adjusted quarterly data for the effects of seasonal variations.

Labor Force – The civilian labor force increased by 11,743 members from 378,790 in the fourth quarter of 2014 to 390,533 in the first quarter of 2015. In addition, 13,433 more workers were available for work this quarter relative to the first quarter of 2014.



Employment – In the first quarter of 2015, Kern County hired 4,553 more workers as total employment increased from 342,680 in the fourth quarter of 2014 to 347,233 in the first quarter of 2015. Even better, the county employed 10,483 more workers this quarter than four quarters ago.

Unemployment – In the meantime, 4,280 more workers were unemployed as the number of jobless workers increased from 39,020 to 43,300. Likewise, 40 more workers were unemployed this quarter than the first quarter of last year.



Unemployment Rate – Kern County's unemployment rate increased eight-tenths of one percent to reach 11.1 percent. The county's unemployment rate was 13.6 percent four quarters ago.

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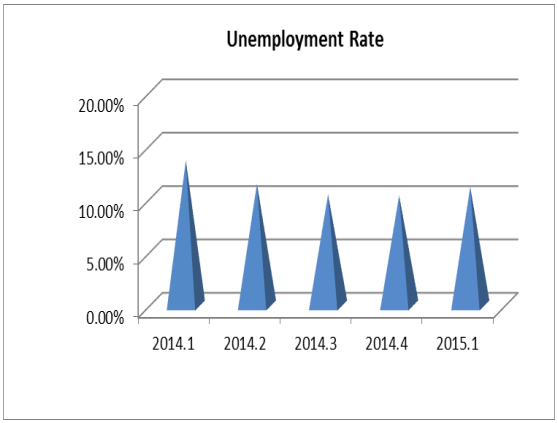


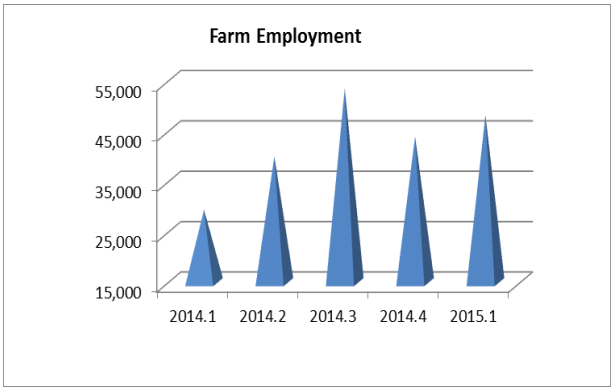
The rate of unemployment varied considerably across cities. Among cities shown below, the unemployment rate varied between 5.2 percent in Inyokern to 22.4 percent in California City. In Bakersfield, the rate of unemployment was 9.9 percent.

Unemployment Rate of Cities

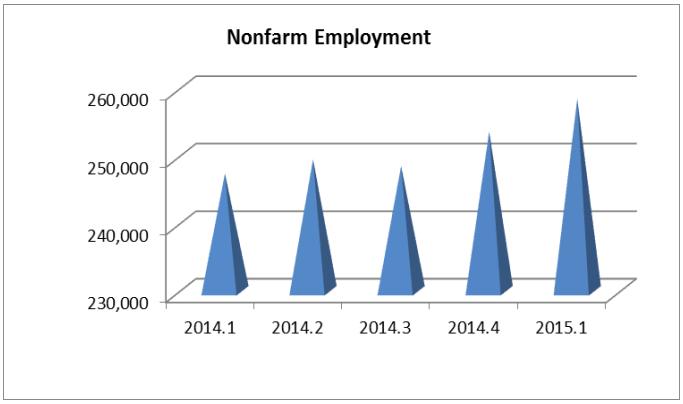
Location	Unemployment Rate (%)	Location	Unemployment Rate (%)
Inyokern	5.2	Bakersfield	9.9
Taft	7.2	Arvin	12.9
Lamont	7.4	Delano	13.3
Ridgecrest	7.5	Oildale	14.2
Tehachapi	8.5	Wasco	14.6
Frazier Park	8.6	McFarland	17.1
Rosamond	9.3	Edwards	19.0
Shafter	9.5	Mojave	19.8
Lake Isabella	9.6	California City	22.4

Note: City-level data are not adjusted for seasonality and "informal" market workers.

Farm Employment – In the first quarter of 2015, Kern County hired 4,250 more farm workers. As a result, farm employment increased from 43,950 to 48,200. Similarly, the farming industry hired 3,450 more workers this quarter than four quarters ago.

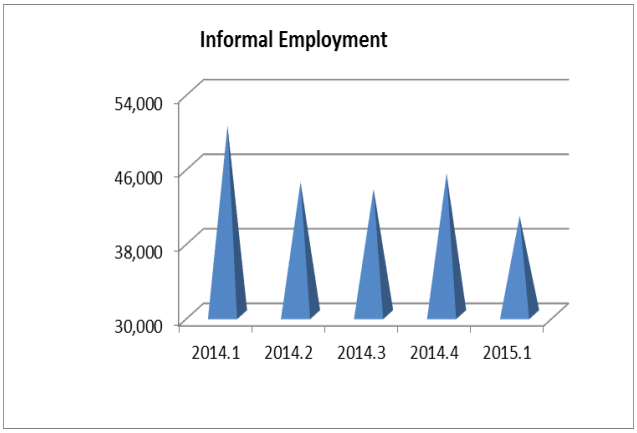


Nonfarm Employment – Local nonfarm industries employed 4,863 more workers this quarter. Hence, the number of nonfarm workers increased from 253,570 to 258,433. Likewise, nonfarm industries hired 9,463 more workers this quarter than four quarters ago.



In Bakersfield, however, many nonfarm industries lost jobs: construction, retail trade, wholesale trade, transportation and warehousing, information, finance and insurance, educational services, federal government, manufacturing, professional and business services, special districts, and oil and gas extraction. However, jobs were added in health-care and social assistance, leisure and hospitality, and city government.

Informal Employment - Informal employment is the difference between total employment and industry employment. It accounts for self-employed workers and workers employed outside their county of residence. In the first quarter of 2015, the number of informal workers decreased by 4,560 from 45,160 to 40,600. Likewise, the informal labor sector hired 2,430 fewer workers this quarter relative to the first quarter of last year.



Private-Sector Employment - Nonfarm employment is comprised of private-sector employment and public-sector employment. In the first quarter of 2015, private

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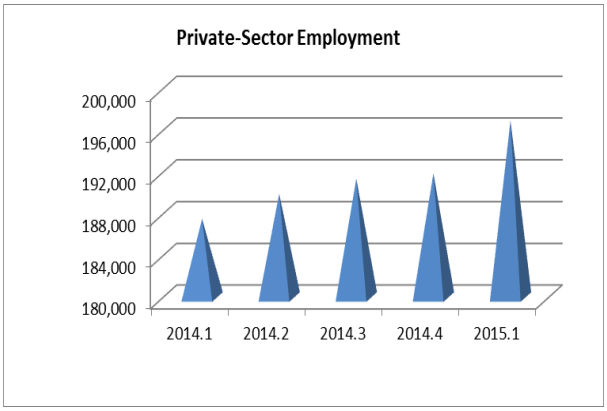
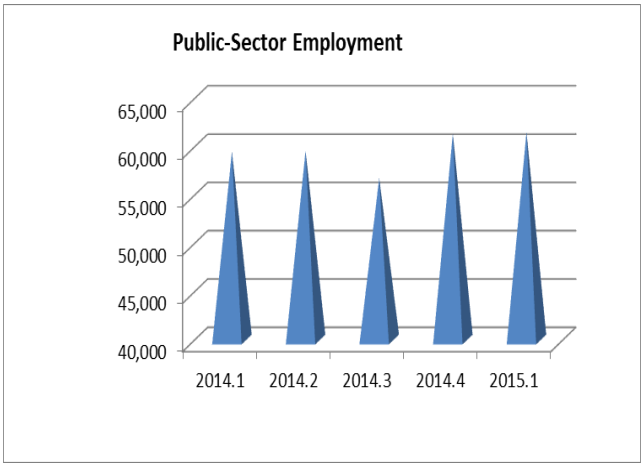
companies hired 5,063 more workers as their employment increased from 191,870 to 196,933. Likewise, the private sector employed 8,333 more workers this quarter than four quarters ago.

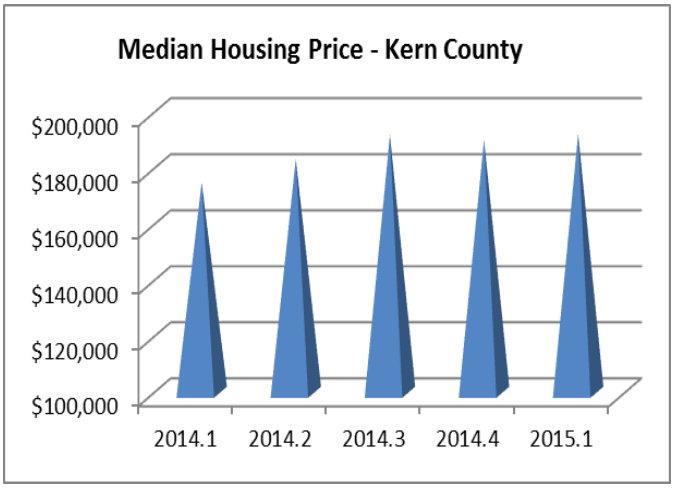


Public-Sector Employment – The public sector consists of federal, state, and local government agencies. The local government labor market includes county and city agencies and public education. In the first quarter of 2015, government agencies hired 160 more workers as their employment increased from 61,340 to 61,500. Similarly, the public sector employed 1,500 more workers this quarter than four quarters ago.

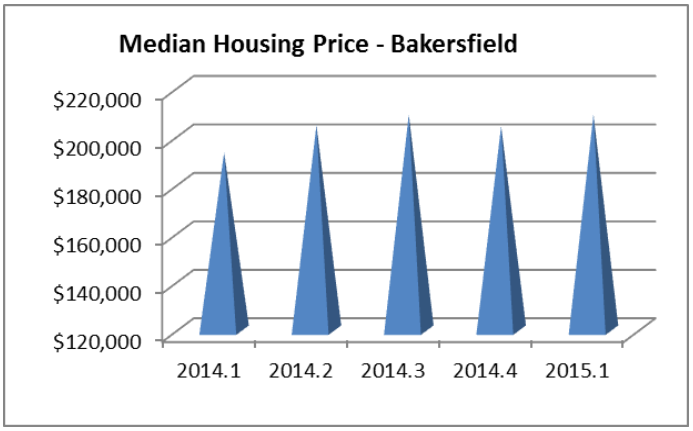


Housing Market

Housing Price - In the first quarter of 2015, Kern County's housing prices increased from the unexpected drop in the fourth quarter of 2014. The median sales price for all residential units increased $2,133 (or 1.1 percent) from $190,200 to $192,333. Nonetheless, the county's median sales price appreciated $17,333 (or 9.9 percent) between the first quarter of 2014 and the first quarter of 2015.



In Bakersfield, the median housing price appreciated $4,700 (or 2.3 percent) from the fourth quarter of 2014, to reach the same level in the first quarter of 2015 as the third quarter of 2014: $209,000. Similarly, the city's median sales price has appreciated $15,600 (or 8.1 percent) since the first quarter of 2014.

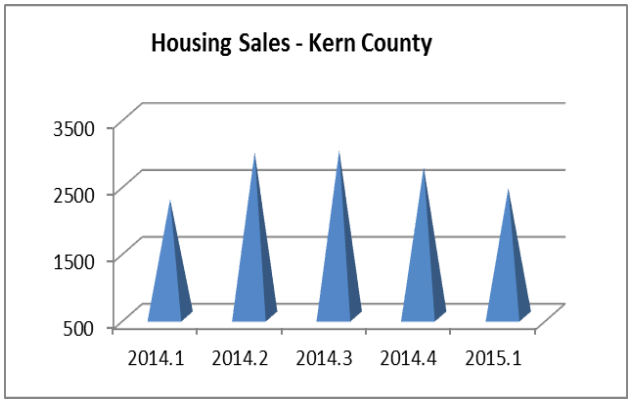


Housing price varied across the county. Within previous four quarters (2014 first quarter to 2015 first quarter), the median sales price appreciated in all major cities of Kern County except Ridgecrest and Taft. In dollar value, California City had the largest appreciation of $37,017. Likewise, California City recorded the largest appreciation rate of 52.1 percent.

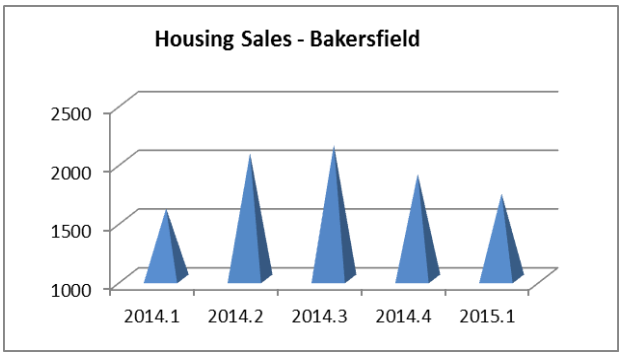
Location	Median Price 2015.1	Median Price 2014.1	Price Change 2014.1 to 2015.1	Price Change 2014.1 to 2015.1
Kern County	$192,333	$175,000	17,333	9.9
Bakersfield	$209,000	$193,400	15,600	8.1
California City	$108,016	$71,000	37,017	52.1
Delano	$169,916	$140,300	29,617	21.1
Ridgecrest	$126,000	$142,700	-16,700	-11.7
Rosamond	$172,333	$153,800	18,533	12.1
Taft	$116,666	$122,300	-5,633	-4.6
Tehachapi	$198,583	$161,800	36,783	22.7

(Continued on page 9)

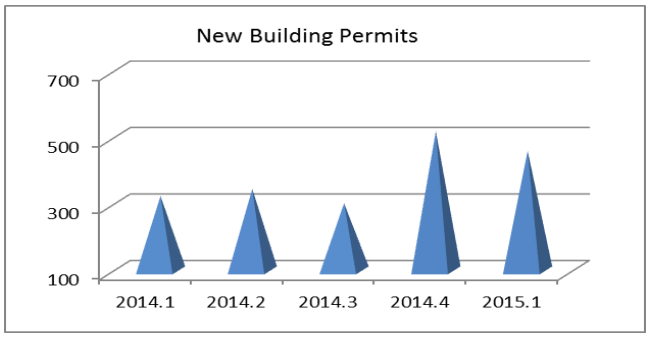
Housing Sales – In the first quarter of 2015, price appreciation was accompanied by sales decline. In Kern County, 313 fewer homes were sold as total sales dropped from 2,735 to 2,422. Compared to four quarters ago, however, 170 more units were sold.



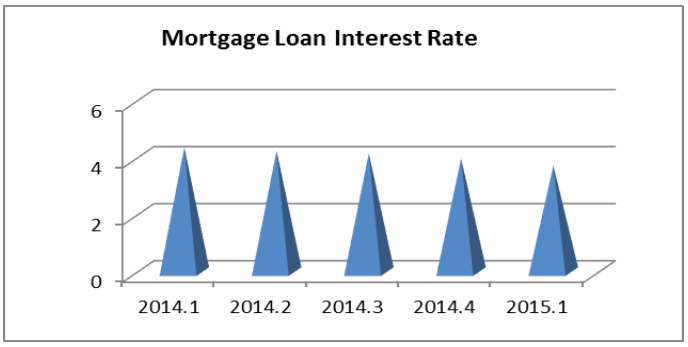
In Bakersfield, sales of residential units plunged as 169 fewer homes were sold. Total sales dropped from 1,895 to 1,726. Nevertheless, sales were up by 125 units this quarter relative to the first quarter of last year.



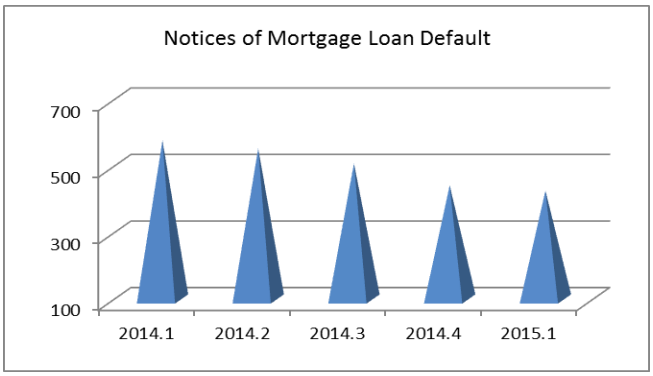
New Building Permits – In the first quarter of 2015, Kern County issued 460 permits for construction of new privately-owned dwelling units. The county issued 519 new building permits last quarter and 324 four quarters ago.



Mortgage Interest Rate – In the first quarter of 2015, the interest rate on thirty-year conventional mortgage loans dropped from 3.97 to 3.72 percent. Four quarters ago, the mortgage loan interest rate was 4.36 percent.

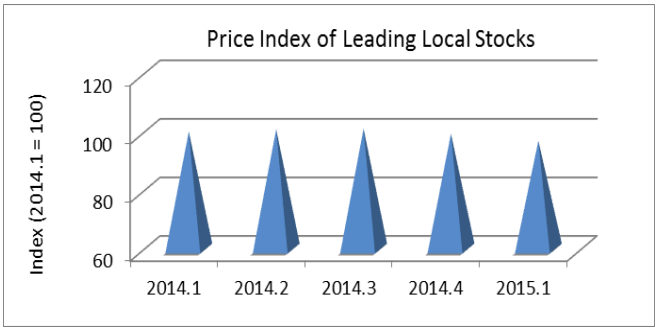


Housing Foreclosure Activity – Kern County's foreclosure activity continued to slow in the first quarter of 2015. The number of homeowners receiving notices of loan default from their mortgage bankers declined from 442 to 426. Similarly, the number of default notices has gone down by 151 since the first quarter of last year.



Stock Market

In the first quarter of 2015, the composite price index (2014.1=100) of the five publically traded companies doing business in Kern County decreased 2.5 percentage points from the previous quarter, from 99.3 to 96.8. The index was also 3.2 percentage points lower than that of four quarters ago. Average "close" prices were measured for five local *market-movers*: Chevron Corporation U.S., Tejon Ranch Company, Granite Construction, Wells Fargo Company, and Sierra Bancorp.



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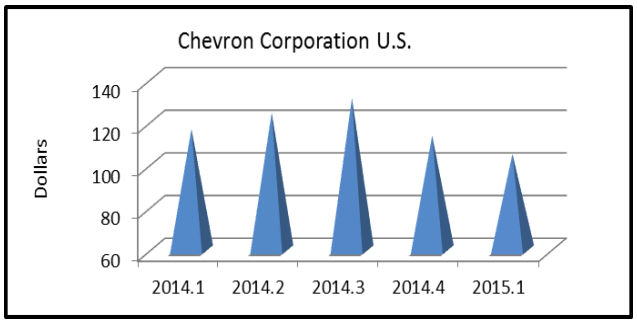
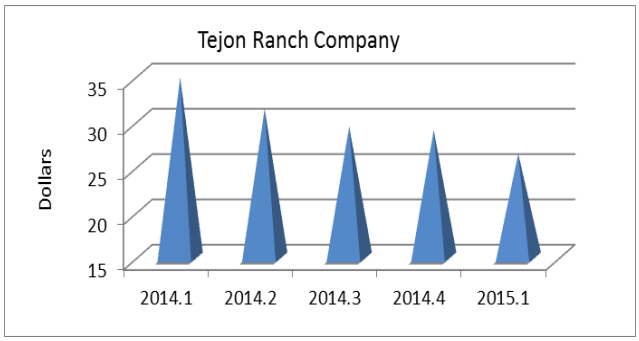
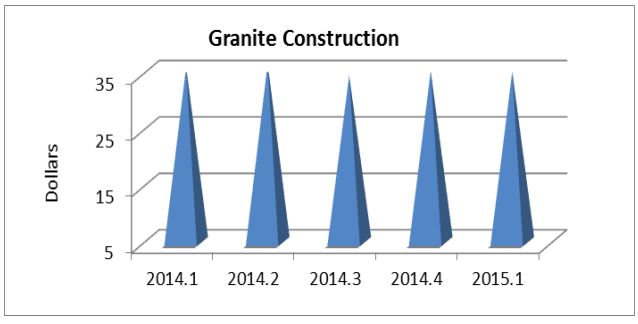
Chevron Corporation U.S.: CVX lost $8.56 (or 7.5 percent) per share as its price decreased from $113.54 to $104.98. Relative to the first quarter of 2014, CVX was down $11.78 (or 10.1 percent).



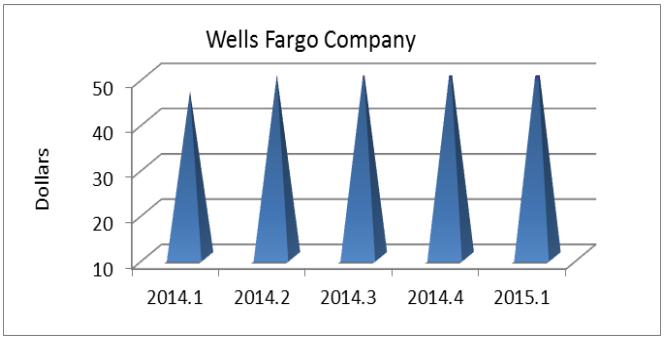
Tejon Ranch Company: TRC lost $2.61 (or 9.0 percent) per share as its stock price dropped from $29.06 to $26.45. Likewise, TRC was down $8.43 (or 24.2 percent) relative to the first quarter of 2014.



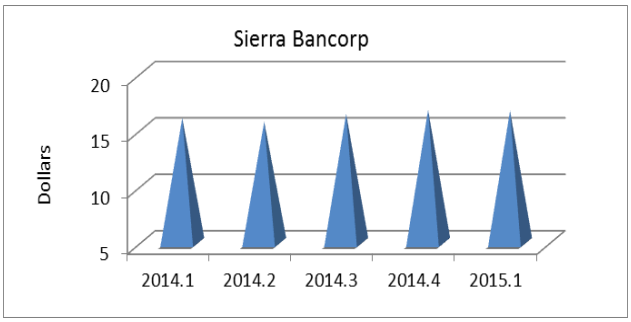
Granite Construction: GVA lost 11¢ (or 0.3 percent) per share as its stock price dropped from $35.25 to $35.14. Likewise, GVA has declined 83¢ (or 2.3 percent) since the first quarter of 2014.



Wells Fargo Company: WFC made $1.50 (or 2.8 percent) per share as its stock price ascended from $52.90 to $54.40. Relative to one year ago, WFC was up $7.80 (or 16.7 percent).

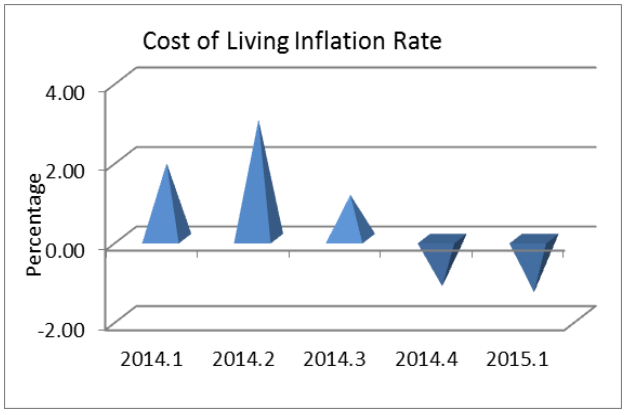


Sierra Bancorp: BSRR lost 7¢ (or 0.4 percent) per share as its price declined from $16.77 to $16.70. Similarly, BSRR has gone down 65¢ (or 4 percent) since the first quarter of 2014.



Inflation

Cost of Living – In the fourth quarter of 2014, the Consumer Price Index for all urban areas (1982-84 = 100) declined from 236.9 to 236.1. As a result, inflation for the cost of living decelerated at an annual rate of 1.35 percent. The cost of living inflation rate was -1.2 percent last quarter and 1.9 percent four quarters ago.



Cost of Production – The Producer Price Index for all commodities (1982 =100) decreased from 200.8 to 191.6. As a result, the cost of production decelerated at an annual rate of 18.3 percent. The cost of production inflation rate was -12.2 percent last quarter and -7.3 percent four quarters ago.

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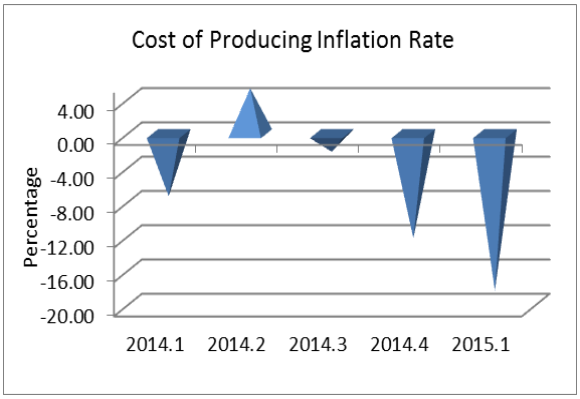
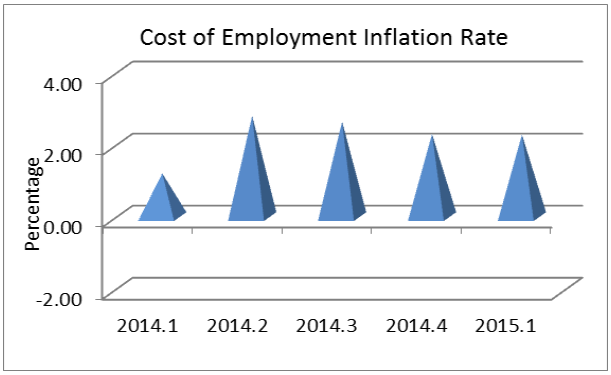
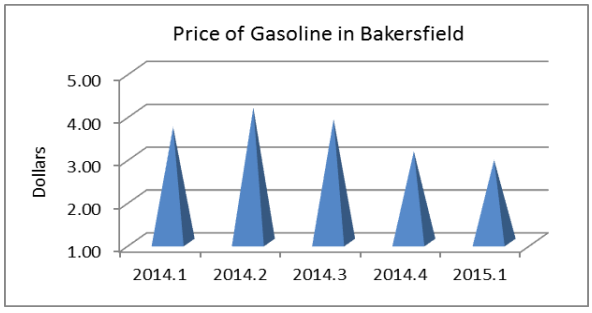


Cost of Employment - The Employment Cost Index (December 2005 = 100) for all civilian workers increased from 122.9 to 123.6. As a result, the cost of employment grew at an annual rate of 2.28 percent. The cost of employment inflation rate was 2.3 percent last quarter and 1.2 percent four quarters ago.

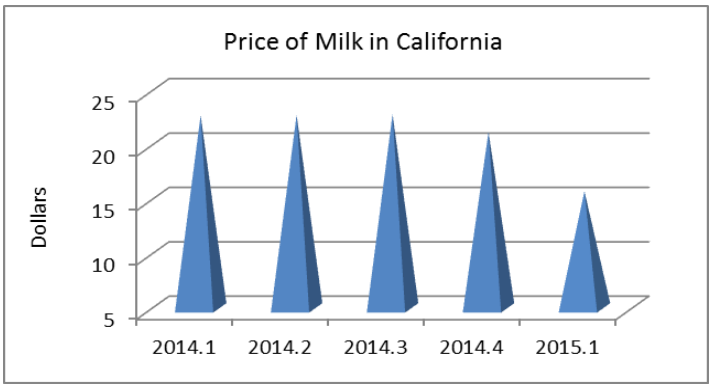


Commodity Prices

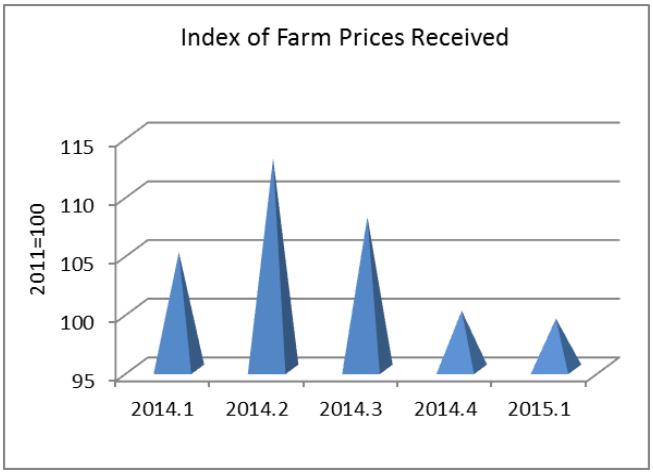
Price of Gasoline - In the Bakersfield metropolitan area, the average retail price of regular gasoline dropped 20¢ per gallon from $3.13 to $2.93. Compared with the first quarter of last year, the average gasoline price was down 71¢.



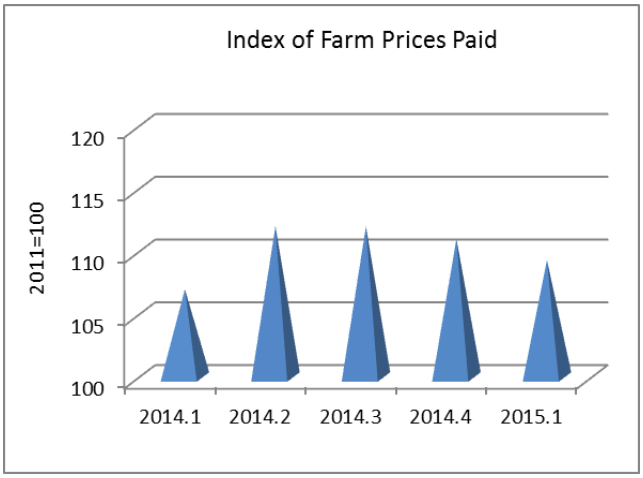
Price of Milk – The unit price of California's Class III milk dropped $5.46 (or 25.8 percent) from $21.19 to $15.73. Noticeably, the price plunged $5.01 in January but increased $0.10 in March. Even more noticeably, the price was down $6.99 (or 30.8 percent) relative to the first quarter of last year.



Farm Prices – In the fourth quarter of 2014, the national Index of Prices Received by Farmers for all farm products (2011 = 100) dropped 0.7 points from 100 to 99.3. The index was 105 four quarters ago.



Meanwhile, the national Index of Prices Paid by Farmers for commodities, services, interest, taxes, wages, and rents declined 1.7 point to reach 109.3. The index was 107 four quarters ago.



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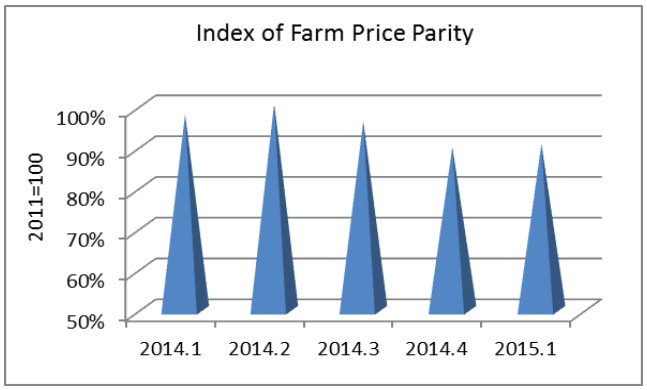
We measure the Index of Farm Price Parity as the ratio Index of Prices Received to the Index of Prices Paid. In the first quarter of 2015, the gap between prices paid and prices received increased slightly as the Index of Farm Price Parity increased from 90 percent to 91 percent. Four quarters ago, the price ratio was 98 percent.



The Economics of Obesity

Richard S. Gearhart III, CSUB

Obesity is, both literally and figuratively, a growing problem, both in the United States and around the world. In the United States, more than one-third of all U.S. adults are obese; a trend that has been happening since the 1960's. Even though obesity rates are lower in continental Europe, they are still showing similar growth patterns. In France, since 1990, there has been a doubling in the fraction of adults who are obese. Similar trends can be found in Denmark, Finland, Spain, and the UK.[4]

Why are we seeing these trends? For a variety of reasons, obesity prevalence is here to stay. Medical technology, for the large part, offsets the costs of our actions. When faced with the choice of eating a Big Mac today, and paying the consequences tomorrow, many people no longer need to worry about the ramifications of this choice. In 20 years, if my cholesterol is high, I can take statins. The consequences of our choices (a shortened life span or a worse quality of life) have been mitigated.[5] Medical technology is a blessing; it has allowed us to spend more time, both in quality and quantity terms, with our loved ones. But we cannot deny that advances bring perverse side effects. The invention of air conditioning has led to children spending more times indoors, as has advances in video game technology. We must be aware of these, in the hopes of being able to combat these poor behaviors.

Even good actions by respected doctors in the field of medicine can lead to these same perverse incentives. Consider, for instance, the new guidelines for prescribing cholesterol lowering statin drugs. The new guidelines set forth by the American Heart Association state that the prescribing statins should no longer be based on specific cholesterol numbers, but on four guidelines: (1) diagnosed with heart disease or had a heart attack; (2) your level of LDL is 190 mg/dL or higher; (3) you have type 1 or type 2 diabetes and your LDL is 70 mg/dL or higher; and (4) your risk of having a heart attack or stroke is 7.5-percent or higher in the next 10 years, according to a health risk calculator.[6] Instead of preventing heart disease through changes in lifestyle, much of which can be attributed back to obesity, the American Heart Association is focusing on combating obesity through medicine. Again, this may induce significant perverse incentives. Why eat healthy, when a Big Mac is quicker (and perhaps tastier), and the consequences of my actions may be delayed (or not even felt)?

All of this points to a potentially troubling conclusion; if people are spurred to make poor lifestyle choices that lead to obesity because of better medical technology, what hope do we have of combating this problem? We know that sin taxes on cigarettes are highly effective; a number of studies have found that raising cigarette taxes reduce smoking prevalence by youths and young adults.[7] Finkelstein et al. (2013) note that a 20-percent tax on sugar-sweetened beverages would be needed

[4] These numbers can be found online at the OECD Health Statistics. http://www.oecd.org/els/health-systems/health-data.htm.
[5] This is based on a working paper by Richard Gearhart.
[6] This is based on an AARP assessment of the new statin guidelines. http://www.aarp.org/health/conditions-treatments/info-12-2013/can-statins-save-your-life.html.
[7] Bader, P, Boisclair, D, Ferrence, R. 2011. Effects of Tobacco Taxation and Pricing on Smoking Behavior in High Risk Populations: A Knowledge Synthesis. *International Journal of Environmental Research and Public Health*. 8(11): 4118-4139.

to have long-term weight reductions of just 2.9 pounds.[8] Gary Becker and Richard Posner, prominent economists, have argued that this is likely a dramatic over-estimate, and that the tax will have much smaller impacts on obesity (much like prominent "fat taxes", in Denmark) have failed.[9] The fact that there is still limited agreement on this point precludes the notion that this is a foolproof plan. Even worse, incredibly high taxes on sugar substances may not work, especially if these sugar substances have any measure of addictive qualities.

The previous explanation about medical technology can also explain the limited findings of the effectiveness of a sugar tax on obesity rates. Even if it works, there are plenty of other substances that are linked to obesity. A tax on sodas may be nothing more than bailing out a sinking ship with a thimble. The ban on the construction of new, stand-alone fast food restaurants in Los Angeles had both failed to reduce fast food consumption, or make a dent in obesity rates.[10] Again, medical technology induces very powerful behaviors.

Does this mean that nothing can be done? That we will march along the path to increased obesity rates, especially amongst children? That we must resign ourselves to our fate? Behaviors are far too strong to combat? No. Innovative policies, such as the Food Insecurity Nutrition Program, can provide counters to behavioral issues. In this program (along with the Double Value Coupon program), if food stamp participants use $10 of their benefits at a farmer's market, they get $20 worth of produce (a $10 subsidy).[11] A tax on sugar may have a limited impact, because of the addictive nature of sugar. Providing cheap, nutritious foodstuffs, however, can have a large impact. A soda and a Big Mac are a dietary nightmare. But, because it has the appearance of being cheap, people purchase it (whereas they view fresh veggies as being more "expensive"). A soda and a home-cooked meal with green beans and a green salad, however, can have a tremendous impact.

Even more can be done on the medical provider side. Perhaps behaviors occur because of implicit cues being given by medical providers? Consider the last time you went to a doctor for a problem. Often, reactive medicine is couched in terms of its benefits (take Lipitor and your cholesterol will be lowered), while preventive medicine and lifestyle changes are couched in terms of costs (have to give up red meat, exercise by itself may not be highly effective). These can have differential impacts on the decisions of consumers of medical care. Subtle changes in recommendations to patients can have large impacts.

Obesity is a growing problem. One with many proposed solutions, that have largely been ineffective. But new, innovative techniques to combat this problem are coming into being. We must realize that the behavior of humans is a powerful force, and that this behavior is being driven by wonderful things; improved medical technology. This does not mean that we should give up the fight, or that it is a lost cause.

[8] Finkelstein, E, Zhen, C, Bilger, M, Nonnemaker, J, Farooqui, A, Todd, E. 2013. Implications of a sugar-sweetened beverage (SSB) tax when substitutions to non-beverage items are considered. *Journal of Health Economics*. 32(1): 219-239.
[9] Found at their blog. http://www.becker-posner-blog.com/2009/05/a-tax-on-sodas-becker.html
[10] Conducted by the RAND corporation. http://www.rand.org/news/press/2015/03/19.html
[11] NPR created a report about these programs. http://www.npr.org/sections/thesalt/2014/10/04/353522055/two-for-one-subsidies-help-food-stamp-recipients-buy-fresh-food.

FEATURED ARTICLE

Sustainability Marketing: Strategic Planning for an Eternal Spring

[E. Vince Carter, Ph.D., Associate Professor of Marketing, CSU Bakersfield]

Sustainability, for all of its blossoming academic research sprouts and radiant business strategy sunlight, can be gleaned by a simple sentence from the visionary Scottish novelist Robert Louis Stevenson:

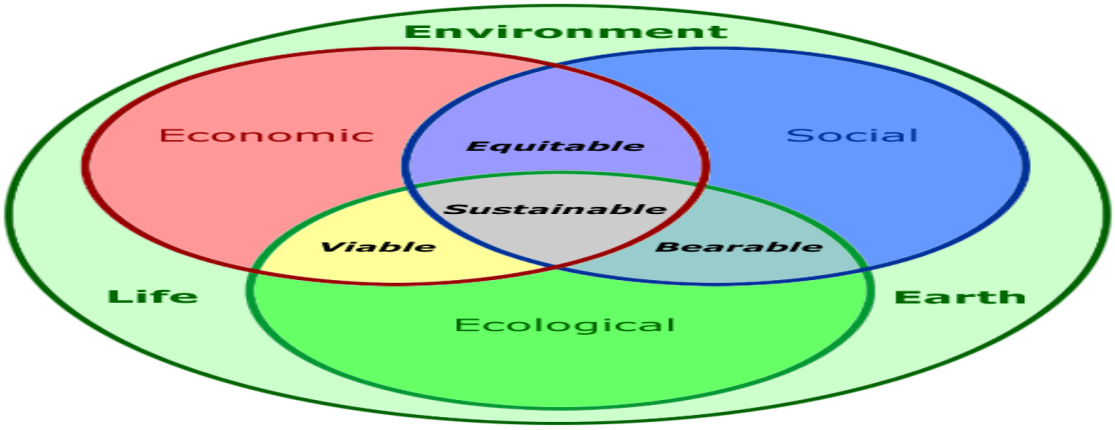
"Don't judge each day by the harvest you reap but by the seeds that you plant."

When you think sustainability, visualize an eternal spring. Where growth and renewal are in seasonal balance and economic harvest replenishes earth's ecological seeds. Scholars and experts agree on those two key drivers of sustainability – human economic harvest and earth's ecological seeds. These dual drivers are called "a state of harmony between man and land" by Aldo Leopold (1986) and "human culture and the living world" by Paul Hawken (2009). The World Commission on Environment and Development (1987) frame these global forces as meeting the needs of the present without compromising the ability of future generations to meet their needs. A concise synopsis is provided by the Aspen Institute, a leading sustainability policy think-tank:

> "… the once and future imperative to invest in natural infrastructure as an integrated part of all economic and human development" (Aspen, 2012, 6)

So, sustainability ideas converge on the people's needs, the planet's nature, and profitable numbers. Commonly known in business circles as the "triple bottom line of people, planet and profit" (Savitz & Weber, 2006; Elkington, 1997), to sustainability scholars they are the "three pillars" of social, environmental and economic outcomes (Adams, 2006). Figure 1 presents a diagram of three overlapping sustainability spheres to show how both economy and society are constrained by environmental limits (Ott, 2003).

Figure 1
Human Sustainability Confluence Diagram



[Source: http://en.wikipedia.org/wiki/File:Human_Sustainability_Confluence_Diagram2.png]

Business Sustainability – Seeing the Economic Tree in an Ecological Forrest

Given the vast scale and complex systems associated with sustainability, many well intended business professionals find the topic a bit overwhelming. After all, we are talking about understanding the outcomes of literally everything in our world interacting all the time. Yet, like the quadratic equation that we learned in high school, sustainability is best planned for by dividing it into problems that can be framed on their own, and simultaneously factored into the total 'humans x earth' equation.

Business Sustainability is one of the most pragmatic and actionable sub-problems that can be separately framed, within the overall sustainability challenge. Business sustainability can be defined as the *strategic* proactive planning for ecological

sustainability within the context of the overall business environment comprised of diverse stakeholders and tiers of corporate social responsibility (CSR). Although this social responsibility context was initially advanced between the 1950s and 1970s, it has become the prevailing view of business sustainability as a strategic market force (Carroll & Buchholtz, 2015; Carroll, 1991). Largely owing to advances in technology, finance, and earth sciences, Business Sustainability is fueling a revolution in industries from energy and agribusiness to healthcare and high tech. Consumer markets have also shown the value of sustainability with brands like P&G, Starbucks, M&M Mars, Levi's, Ford, Home Depot, and IKEA.

The strategic merit of Business Sustainability has been repeatedly validated by trade and academic research, as typified by a Harvard Business Review study linking sustainability to growth in both external market and internal innovation (Nidumolu, et al., 2009). The Conference Board, a revered economic research and forecasting organization, has been a focal point for sustainability policy research impacting global business strategy since its early work on corporate citizenship and CSR in the 1990s to current business sustainability summits and scorecards (Tonello & Singer, 2015; Hedstrom, 2015).

Just as industries and markets accrue prudent external gains from a sustainability focus, institutions and managers achieve proven internal goals for sustainability functions. The importance of sustainability thinking is embraced across the entire spectrum of business functions, including strategic planning, raw material production, supply-chain procurement, operations processing, accounting assets, financial investment, information system applications, and marketing metrics.

Figure 2 shows that Business Sustainability functions are classified as either *Sustainability Marketing* or *Sustainability Management* -- which includes everything else. Sustainability Management grows innovation, cost savings, and social responsibility within the organization, while Sustainability Marketing plants brand value seeds and brand community roots in the market.

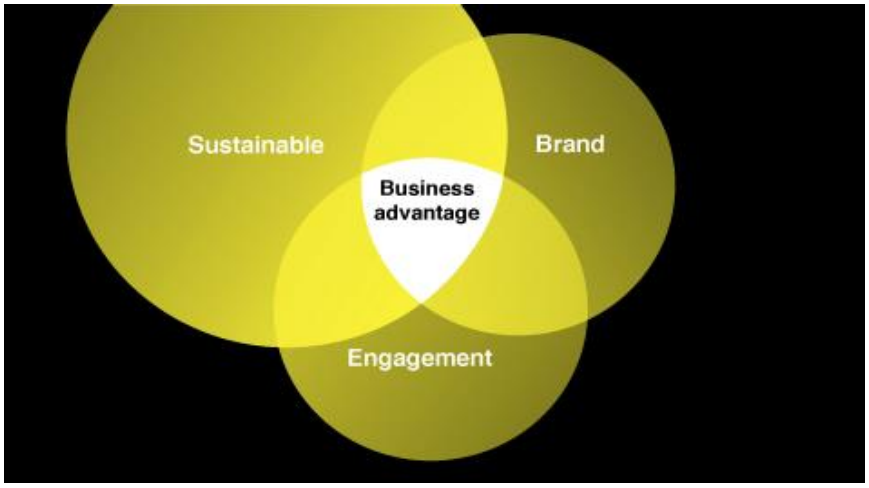
Figure 2
The Domains of Business Sustainability Planning

Sustainability Marketing – Renewing Brands by Engaging with People and Planet

This article is primarily aimed at Sustainability Marketing as a growth strategy for renewing existing brands ("harvest") and sowing new ones ("seeds"). Like the earth that supports human existence, Sustainability Marketing is real. The practical potential of sustainability marketing for brand reputation is well supported, as typified by The Conference Board's recent publication (Singer, 2014). Unlike so many waves of passing marketing mantras and buzzwords, Sustainability Marketing is reliable. Whether a brand is business-to-business (B2B), business-to-consumer (B2C), or business-to-government (B2G), three eternal rings define Sustainability Marketing strategy, as shown in Figure 3. The size of each ring directly corresponds to its strategic importance.

1. Sustainable Resources ("costs")
2. Engagement Networks ("sales")
3. Brand Loyalty ("profit").

Figure 3
Three Eternal Rings of Sustainability Marketing Strategy



[Source: Sustainable Brand Engagement http://www.375.co.uk/sustainable/]

Sustainable Resources: Planning for the first ring located to the left in Figure 3 requires a cost/benefit analysis of all resources used to design, develop, and deliver the brand. In marketing strategy this is the "value chain" (Porter, 1955) and for managers it is operations. Logically, Sustainability Management practices complement Sustainability Marketing's purpose of carving out a strategic business advantage. This sustainability resource audit should be done gradually and with the complete involvement of all affected employees and staff members at stakeholder organizations. It must also be planned as an ongoing audit cycle, like financial accounting, with continuous improvement of "smart green" cost savings on brand resources. When we speak of all brand resources, it means all resources. From energy that powers factories and logistical packaging, to the navigation of sales rep routes and the furniture in advertising offices.

Engagement Networks: Planning for the second ring located on the bottom in Figure 3 relies on relationships that expand in new directions ("scope") and become enriched with knowledge depth ("scale"). In particular, the new brand network of customers, channel members, media contacts, and social communities must value the brand's sustainability advantage. Customers must be willing to pay more for sustainable brands than for conventional brands. Social, public, and cultural stakeholder networks are vital for cultivating brand communities, in the same manner as fertile soil improves the yield from seeds. Brands feed off societal nutrients.

The scope of new market networks is measured by the growth of different types of customers who value sustainable brands for diverse reasons, as well as the resulting sales dollar gains. At first, this sounds like old fashioned marketing with a selling-orientation that stresses rising revenues. Actually, leading edge market analytic techniques code data-mining algorithms that screen customers based on their low price elasticity with respect to sustainability brand features (e.g., increasing price without declining demand).

Besides growing market scope, engagement networks use social media metrics to deepen the scale of sustainable brand value by enriching customer relationships. Whereas market scope expands by planning who will pay to join the sustainable brand community, market scale enriches by probing for knowledge of why those customers buy sustainable brands.

Customers of all types have a proven propensity for brand sustainability advantages. Whether advantage stems from organic ingredients, biodegradable materials, water conservation, recycled containers, solar powered vehicles, or donations to social and ecological causes, sustainable brands have value. Studies of companies in business and academic publications consistently affirm the better financial and market performance of sustainable brands (Smith/Forbes, 2013; Environmental Leader, 2013)

The scale of markets for sustainable brands can be deepened by applying what the customer behavior sage Eric Marder (1997) labeled "the laws of choice." Namely, use low budget selective sampling experiments that represent the exact same choice that customers encounter in the market, as a basis for raising the brand's sustainability value.

For example, if a new package is being considered, devote resources to replicating the old and new brand package with the same store atmosphere of competing brands on the shelf and shopping experience as encountered in the actual market. This experimental arrangement can be thriftily composed with digital online, mobile or even 3D virtual world experiences. Likewise, the theatrical arts can assist in adapting simple spaces like interview rooms into miniature store studios, complete with audio-video recording. Whatever can be used resourcefully to accurately represent the experimental setting's look and feel will pay economic dividends for brand strategy.

Once a replica is created of the customer's shopping situation, researchers are likely to observe choices that reflect the true value of brand sustainability. Then, following a pattern of experiment choices, customers can be questioned about why those choices were made. The process of asking after actual choice patterns are recorded renders more truthful and complete responses. These brand sustainability choice experiments can be tailored to B2C, B2B, or B2G buying situations.

Brand Loyalty: Ultimately, sustainable brands must generate repeat customers and eliminate the revolving door of customer churn. That's the third ring of brand loyalty which is located to the right in Figure 3. It also highlights the role of social-media marketing in sustainable brand strategy. Brand loyalty, measured as repeat customers, has been empirically proven to account for 60% of company profits, by reducing the marketing expenses and operational costs associated with unappealing brands. These reliable profitability returns are described as "The Loyalty Effect" (Reichheld & Teal, 2001). Attaining profitability from brand loyalty related to sustainability features is imperative for Sustainability Marketing to succeed. The work of winning customers' loyalty to sustainable brands begins after the first purchase is complete.

Traditionally, discovering customers' post-sale propensities has been the purview of Marketing Research (MR). Yet, MR is gradually being pushed into the background by the availability of digital and real-time customer feedback from company information, web/mobile metrics, check-out scanner data, and social media platforms. These emerging digital metrics are referred to as "touch-points."

Touch-point tendencies can signal both positive and negative brand loyalty. Referrals, multiple purchases, service contracts, and upgrades indicate favorable loyalty outcomes. On the other hand, complaints, returns, and repairs highlight unfavorable outcomes related to defects, poor performance, and unmet expectations. Other touch-points captured by financial reports can help gauge pricing power for sustainable brand success. Most important, loyalty program profiles and web/mobile/social-media platforms can be analyzed for sustainability related incentives, premiums, and donations.

Longer term loyalty patterns can be deciphered from "Recency-Frequency-Monetary" (RFM) analysis (Eisenberg, 2009, 2002a, 2002b), to maximize "Customer Lifetime Value" (CLV) of Customers." Brand loyalty rises when:

a) Customers make purchases more "recently" following a prior purchase
b) Customers purchase more "frequently" over a specific time period
c) Customers spend more "money" on purchases.

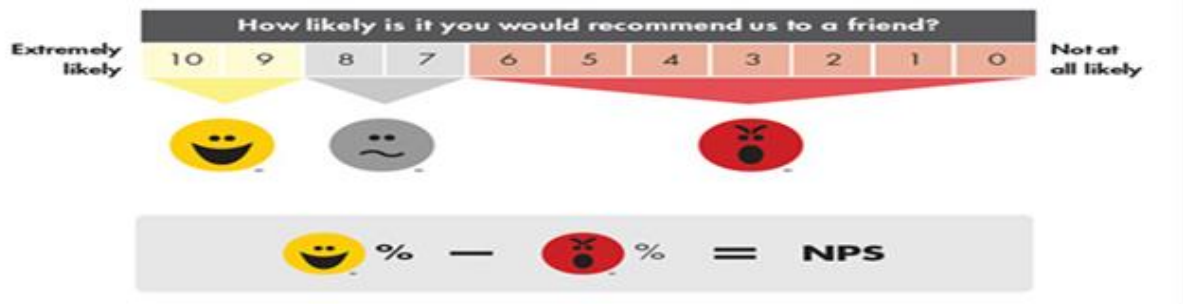
RFM metrics for sustainable brands should be stronger than for regular brands. Typically, an "RFM Matrix" is used to depict and decipher brand loyalty patterns (see Figure 4).

Figure 4
The Recency-Frequency-Monetary (RFM) Matrix

[Source: D. R. Libey, ometria.com]

Lately, many successful firms have implemented Reichheld's (2003) Net Promoter Score (NPS) rubric as a brand loyalty measure. As shown in Figure 5, the NPS is a simple and strategic assessment of brand loyalty based on a single question … "How likely is it that you would recommend (brand) to a friend?" The resulting NPS scores are scaled from loyal "promoters" to disloyal "detractors." Given the distinctive psychographic and social lifestyle qualities of sustainability's appeal, NPS is ideal for sustainable brands. The growth of "meaningful green" eco-friendly lifestyles and lifestyles of health and sustainability (LOHAS), reflect strong shared values that are captured as NPS networks.

Figure 5
The Net Promoter Score (NPS) Scale



[Source: Reichheld (2003); http://www.netpromotersystem.com/about/measuring-your-net-promoter-score.aspx.]

Conclusion – The Sustainable Marketing Forecast is Eternal Spring

We have canvassed the comprehensive and complex subject of sustainability, with an emphasis on the practical value of Business Sustainability, and the planning advantage of Sustainability Marketing. In particular, the three rings of Sustainability Marketing were advanced to help guide sustainable brand strategy. By focusing on sustainable resources, engagement networks, and brand loyalty, strategically planted seeds will yield an eternal spring of business innovation and market growth. As with farming, Sustainability Marketing cycles balance the economy of father time with the ecology mother nature.

*References available in online issue of the KEJ and by request from the editors of the KEJ.