

Volume 15, Number 1

ISSN 2150-5063

**Allied Academies
International Conference**

**New Orleans, Louisiana
April 4-7, 2012**

**Academy of Economics
and Economic Education**

PROCEEDINGS

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THE OIL ECONOMY OF SAUDI ARABIA

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ABSTRACT

Saudi Arabia is one of the richest countries in natural resources. Oil revenues allowed the Saudi economy to expand and grow to become a modern complex economy. The kingdom plays a key role in the world's economy, facilitating world trade in major commodities. It is ranked one of the world's largest 20 economies, and it has been growing robustly in the past decade.

INTRODUCTION

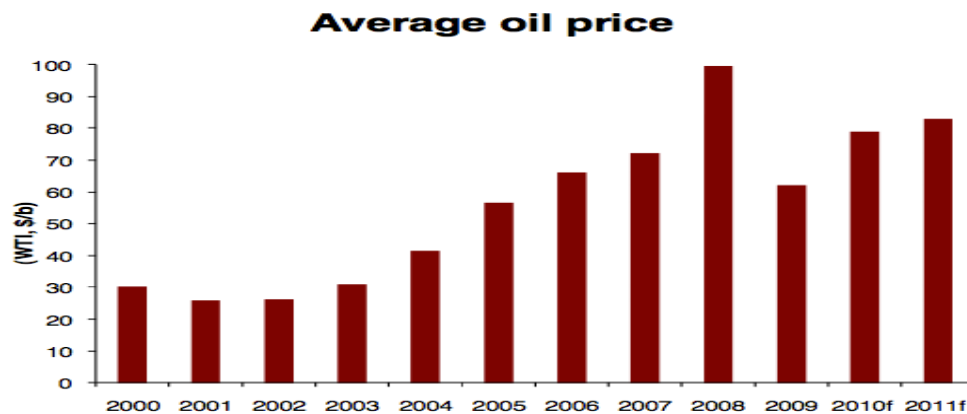
The Saudi government has been increasing its spending rapidly in the past couple of years, while still creating record budget surpluses in recent years fueled by staggering increases in oil prices. This has raised so many questions about the kingdom's effectiveness in managing this massive oil wealth and whether or not the long-term investment outlook looks promising to attract foreign direct investments to Saudi Arabia.

The Economy of Saudi Arabia

Saudi Arabia's petroleum sector accounts for about 90% of its exports. (CIA World Factbook, 2011) Sitting on 20% of the world's proven oil reserves, Saudi Arabia is considered one of the largest exporters of petroleum in the world. (Bureau of Near Eastern Affairs, 2011) The petroleum sector accounts for roughly 80% of budget revenues, 45% of GDP, and 90% of export earnings. (CIA World Factbook, 2011) The energy rich kingdom is playing a major role not only among OPEC countries, but also in the world's economy in general. Saudi Arabia's economy is greatly dependant on oil prices. When oil production started, the country's economy expanded rapidly in the 1970s, averaging a double-digit growth in GDP for more than a decade. However, with the decline of oil prices in the 1980s, GDP growth almost flattened. (Country Studies Program) Since 1999 oil prices rose steadily on average, turning around the Saudi economy to be considered as one of the 20 largest economies in the world. (G-20. org, 2011)

Country Economic Profile	
Official Name	Kingdom of Saudi Arabia
Population	26,131,703 (July 2011 est.)
GDP	\$622 billion
GDP Real Growth Rate	3.70%
GDP per Capita	\$24,200
GDP Composition	agriculture: 2.6% industry: 61.8% services: 35.6%
Unemployment	10.80%
revenues	\$197.3 billion
expenditures	\$167.1 billion
Budget Defecet or Surplus	6.8%+ of GDP
Inflation Rate	5.40%
Central Bank Discount Rate	2.5% (31 December 2008)
Major Industries	oil, petroleum refining, basic petrochemicals, cement, fertilizer, plastics, metals
Agricultural Products	wheat, barley, tomatoes, melons, dates, citrus, chickens, eggs, milk
Oil Production	10.52 million bbl/day
Oil Consumption	2.643 million bbl/day 25.1% of Production
Oil Proven Reserves	262.6 billion bbl (1 January 2011 est.)
Exports	\$237.9 billion 90% petroleum and petroleum products
Imports	\$88.35 billion machinery & equipment, food, motor vehicles, textiles
Reserves of FX and Gold	\$445.1 billion
Exchange Rate SAR/US Dollar	3.75

The numbers are estimates as of 2010, unless mentioned otherwise Source: (CIA World Factbook, 2011)



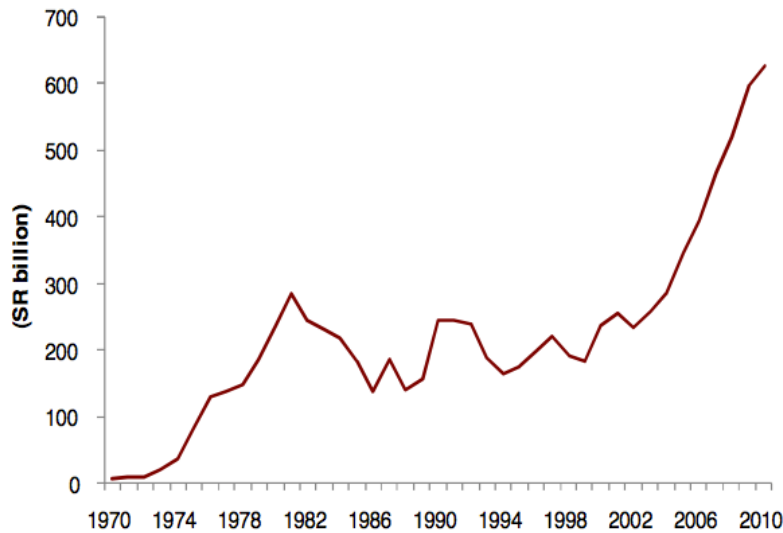
(Gamble, 2010)

In the 1930s oil was discovered in Saudi Arabia. Yet, it wasn't until late 1960s that the oil industry started to boom. Since the 1970s, Saudi Arabia launched massive government spending programs, investing in infrastructure, defense, healthcare, education...etc. (Country Studies Program) Consequently, massive amount of wealth was accumulated, and the country became one of the dominant economic and political powers of the Middle East.

After signing a Trade Investment Framework Agreement with the U.S. in July 2003 and many years of negotiating, Saudi Arabia became a member of the World Trade Organization in 2005. (Bureau of Near Eastern Affairs, 2011) Since then, the government increased spending,

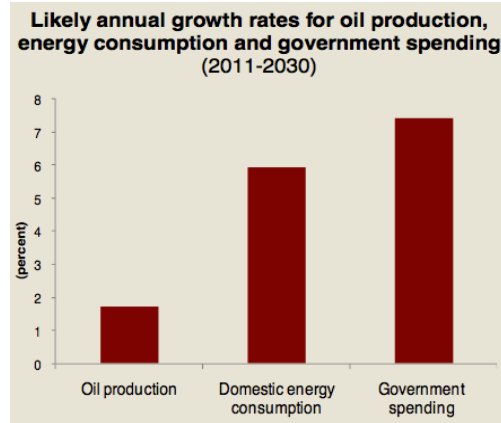
according to the World Factbook “the government plans to spend \$373 billion between 2010 and 2014 on social development and infrastructure projects to advance Saudi Arabia's economic development”, including building six economic cities around the country to promote the expansion of the economy to raise the standard of living. (CIA World Factbook, 2011) The Saudi government spending plan for 2010–2014 aspires to increase real GDP by 15% over the five years and calls for substantial government investment in human resource development in order to decrease Saudi unemployment from 9.6% to 5.5% according to the Department of State. (Bureau of Near Eastern Affairs, 2011)

Government spending



(Bourland, 2011)

In recent years, the kingdom has opened economically to integrate its economy with those of the world. Saudi Arabia has taken many steps to ease doing business in the country to encourage the inflow of foreign direct investments. Saudi Arabia’s effort was visible in the *2011 Doing Business* ranking report by the World Bank. The kingdom was ranked number 13 in ease of doing business. (The World Bank, 2011) Moreover, Saudi Arabia continues to invest in the petrochemical sector, which is the country’s core competency, resulting in major growth in The Saudi Basic Industries Corporation (SABIC). SABIC, a state-owned company, has grown to become one of the world’s leading petrochemical companies. According to Arab News, “in 2008, SABIC was ranked the number 1 chemicals company in Asia and number 4 in the world by Fortune Global 500.” (Roger, 2009) With all of these programs in place, Saudi Arabia transformed itself in a relatively short period of time from a desert kingdom to a world-class economy, facilitating over a quarter of the world’s oil. (Bureau of Near Eastern Affairs, 2011)



(Bourland, 2011)

While Saudi Arabia may be enjoying oil revenues for some years to come, it is clear that it will be crucial for Saudi Arabia to find alternative sources of revenue for the long-run wealth and prosperity of the country.

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THE DEBT INDEX AND ITS RELATION TO ECONOMIC ACTIVITY

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ABSTRACT

The misery index was created by Arthur Okun to serve as an economic indicator. It combines the inflation rate and the unemployment rate to gauge economic performance. Robert Barro developed the Barro Misery Index that also included GDP and the discount rate to measure economic health.

With expanding national indebtedness and seemingly endless deficit spending the world's economies appear to face different issues that move beyond inflation, unemployment, and sluggish growth rates. While there are clearly empirical relationships for these variables to debt and deficit levels, we do not currently have an index that shows explicitly how debt affects economic activity.

This paper combines debt and deficit GDP ratios to develop a "debt index" for several national economies and uses this measure to show when an economy might reach a critical stage with respect to indebtedness. The paper also uses the debt index measure to show how private investment is affected by a nation's debt troubles.

ECONOMETRIC STUDY OF TIME USE AND SCORES IN ONLINE MBA STATISTICS CLASS: A GENDER ANALYSIS

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Jennifer Flanagan, Texas A & M University-Commerce

ABSTRACT

Improved Student learning is the ultimate goal of educators and is generally measured in terms of scores earned in the course. Students themselves must also dedicate adequate hours to the course. The present study provides evidence that a student's final grade is closely linked to the hours spent in the course, especially with regard to online statistic courses. This study uses actual recorded online time use of students instead of self-reported surveys used in most studies in the relevant literature. Moreover, the models use actual scores instead of the letter grades which hide a lot of information by converting the ratio scale variable to discrete ordinal variable. As a result, this study could use Constant elasticity and Decreasing Elasticity Mixed Dummy Multiple Regression models assuming that online time use is an objectively measurable good indicator of overall effort by students in online classes. The evidences suggest that there is a significant reward for additional effort, especially at the lower levels of times use and scores. The Constant Elasticity model predicts a 4.3% improvement in existing score for additional 10% increase in online time use for male students. For female students the improvement is expected to be only about 2.5% in existing score. The gender difference is highly significant statistically in the Constant Elasticity model. The decreasing Elasticity model is not only theoretically more appealing but also most successful in explaining variations in the scores, although the gender difference gets dampened and loses some of its statistical significance in this model. According to this model, a 10% increase in online time use for male students with minimal online time use (about 9.2 hours over the semester), is expected to improve the existing score by 3.8% of existing score. For a similar female student the predicted improvement is 3.1% of existing score. As the level of time use increases to the mean level (76.4 hours over the semester), the elasticity for male students drops to 0.05 indicating that a 10% increase in time use would be expected to improve existing score only by 0.5%. The gender difference at higher levels of time use becomes very small. The results of this study are particularly significant for students with low online time use. Instructors should encourage such students to significantly increase their effort as it promises much larger reward at the lower end of time use. Although few students can and have achieved high scores despite their low online time use, it is clear from the data that very low online time use is a good predictor of low scores with few exceptions. This research can be extended by including other objectively measurable attributes and also covering other subjects.

REVITALIZING A MARGINALIZED COMMUNITY: A CASE STUDY OF HOPE VI PROGRAM, SOUTHEASTERN REGION

**Pam Jackson, Fayetteville State University
Inder P Nijhawan, Fayetteville State University**

ABSTRACT

HOPE VI is a HUD program designed to revitalize a marginalized community. This initiative is expected to replace in Fayetteville 249 distressed public housing units and obsolete infrastructure for low income households with 747 new mixed-income rental units and homeownership dwellings, providing new housing opportunities for disadvantaged persons on seven sites. The program will also promote economic independence by providing residents with opportunities to acquire the skills needed to achieve self-sufficiency. The Fayetteville Metropolitan Housing Authority (FMHA) was awarded a \$20 million HOPE VI grant by HUD in 2008 and it leveraged these funds with several million additional dollars through partnerships with area businesses and other institutions. The paper estimates the economic impact of HOPE initiative on the local economy and evaluates the success of the program in the first two years.

INTRODUCTION

Profile of Original Neighborhood

Delona Gardens and Campbell Terrace, built in 1942 and 1953 respectively, were originally working class, African American communities with agricultural and industrial roots. Delona Gardens, the oldest public housing site in North Carolina, was built during WWII to house military personnel and later converted to public housing to satisfy post-war needs. During the 1960's, both neighborhoods became increasingly poverty-stricken and are now largely comprised of low-income rentals, vacant lots, and boarded-up houses. Not surprisingly, 100 percent of the homes are low-income housing units.

Profile of HOPE VI Residents

Of the 249 residents, 4 percent are Caucasian, 1 percent is Hispanic, and the remaining 95 percent are African Americans. Males account for 10 percent of residents.

The age distribution is as follows: One resident, who is 65 years old, is excluded from our analysis because the HOPE VI program covers residents between the ages 19-64. It is noteworthy that 83 percent of the residents are young (below the age of 30). Indeed, the self-sufficiency cohort is dominated by young adults, many of whom are single female heads of household. In contrast, only 12.4 percent of Fayetteville households are classified as single headed households

The level of educational attainment among HOPE VI residents is significantly below attainment levels for Fayetteville residents. Collectively, 18 percent of residents hold less than a

high school diploma; 50 percent have earned a high school diploma; 23 percent have some college; and 9 percent have earned a college degree.

The poverty rate among HOPE VI residents is 100 percent compared to only 17.5 for Cumberland County. The primary source of income for most residents is governmental subsidies with over 60 percent having incomes of less than \$15,000 per year. The average annual household income is \$6,954. An analysis of baseline data indicates that only 56 persons were employed suggesting a staggering unemployment rate of 59 percent among residents compared to an 11.6 percent unemployment rate for Fayetteville.

Our analysis suggests a typical resident has the following profile: A young African American female holding a high school education, currently unemployed or underemployed, and relying on government assistance as her primary source of income.

Revitalization Goals and Strategies

To revitalize the marginalized community, Fayetteville Metropolitan Authority set the following goals:

1. Relocate residents to improved housing and increase the economic stability and self-sufficiency of these residents by providing a wide array of supportive services.
2. Revitalize the Old Wilmington Road area by demolishing the Campbell Terrace and Delona Gardens housing projects and replacing them with mixed income housing and improved community facilities.
3. Create a market demand for further development and revitalization in the Old Wilmington Road neighborhood.

A formative program evaluation is ongoing to determine the effectiveness of the Hope VI project in Fayetteville. The primary purpose is to gauge Fayetteville Metropolitan Housing Authority's progress in meeting program goals. Accordingly, the evaluation focuses on the near-term self-sufficiency accomplishments and well-being of the original Campbell Terrace/Delona Gardens residents as well as the economic impact of HOPE VI within the context of the longer term revitalization of the Old Wilmington Road area. To encourage self-sufficiency, case workers help residents articulate their career and family goals and identify barriers (i.e. substance abuse problems, childcare, or transportation needs) that prevent successful employment. Residents are directed to the supportive services necessary to move toward self-sufficiency and are monitored through the career-readiness training process.

HOPE VI Socio-economic Outcomes

In evaluating the success of the Hope VI program in improving the socioeconomic level of the participants we will examine educational attainment, sources of income, and efficacy of training and support services in improving access to employment.

Education

The level of educational attainment among HOPE VI residents is significantly below the attainment levels for the general public. At baseline, 18 percent of residents held less than a high

school diploma; 82 percent had earned at least a high school diploma; 23 percent had some college; and 9 percent had earned a college degree. According to the US Census Bureau, for the overall city of Fayetteville, 89 percent of residents age 25+ have earned at least a high school diploma and 23 percent have earned a college degree.

Although the number of residents holding less than a high school diploma has remained unchanged in 2010, the percentage earning a high school diploma or GED has increased by three percent. It is plausible that the slight decrease in those holding some college or a college degree can be attributed to those leaving the program since the more education, the greater the ability and capacity to move.

Incomes & Progress Toward Self-Sufficiency

There is evidence of progress toward self-sufficiency—primarily through increased part-time employment levels. As shown in Figure 4, 21 percent of Hope VI participants had part-time employment in 2010, up from 9 percent in 2009. However, it appears that as a result of the poor economy, this increased part-time employment was partially offset by reduced access to the full-time employment necessary for true long-term self-sufficiency. Only about 12 percent of participants were employed in full-time work in 2010—down from 23 percent in 2009. The net result was that 39 percent of the Hope VI participants were employed in 2010, an increase from 32 percent in 2009. There were also fewer full-time students in 2010—though this would be expected due to graduations and typical student attrition.

Another key indicator of self-sufficiency is the extent to which households access support from Temporary Assistance for Needy Families (TANF) funds. In 2010, 17 percent of Hope VI households received support from TANF, down from 24 percent in 2009. This indicates that despite reduced full-time income, residents are increasingly able to rely on other resources—including child support and including federal resources offered based on factors other than financial need, such as SSI.

In general, experience gained through increased employment levels—even though primarily part-time, can be expected to lead to increased long-term preparedness for future self-sufficiency, but more needs to be done to accelerate near-term progress and offset the impact of the poor economy.

Training & Support Services

To further increase the rate of employment and self-sufficiency, the Hope VI program provides a number of support services, including general employment skills training (such as interview preparation), training for specific jobs, transportation assistance, and child care. As shown in Figure 8, use of job training and placement programs increased from 2009 to 2010. Utilization in 2010 ranged from 5 – 25 percent of the residents. Given low rates of full-time employment, more needs to be done to provide training and support more widely perceived as valuable, to drive higher utilization rates and greater access to employment opportunities.

There is evidence that the use of existing training and support services is beneficial in improving access to jobs – particularly among those who have relocated to other housing through Section 8. One-half of those who received employment preparation or job skills training among Section 8 residents are reported to be currently employed, while only 37 percent of Section 8 residents who did not receive such assistance are employed. Similarly, among public housing

residents, 40 percent of those who received training are currently employed, while only 35 percent of those who did not receive such training are employed.

Child care services and transportation assistance have also proven to be effective in increasing rates of employment among Hope VI residents. Figure 11 shows that those residents receiving child care services have employment rates in the 60-65 percent range, compared to 30-35 percent rates of employment among everyone else. Similarly, residents receiving transportation assistance have maintained employment in the 50-65 percent range, while the employment rate for everyone else is 30-35 percent.

As noted above, with typical utilization rates for support services less than 20 percent of the total, there appear to be opportunities to improve the targeting of the available services to be more responsive to the needs of the residents—particularly given the low levels of full time employment. It is recommended that particular focus should be placed on identifying a broader range of job opportunities, perhaps using subsidized, on-the-job training to improve the access of Hope VI residents to full-time employment possibilities.

In 2010, training expanded from a prior focus on nursing assistants to training which included Microsoft Office software skills and customer service skills. Options should be investigated to further expand access to local community colleges (Fayetteville Technical Community College) and universities (particularly Fayetteville State University) to offer additional training in areas with higher demand and higher pay.

Impact of HOPE VI CSS Program on Residents

In the 2010 calendar year, 20 percent of the goals were exceeded, 25 percent were met, and 55 percent were not met. However, many of the more motivated residents took advantage of opportunities to improve their situations early, in 2009. When the accelerated success achieved in 2009 is considered, cumulatively 55 percent of goals were exceeded, 25 percent were met, and only 20 percent of the cumulative targets were not met.

Economic Impact of HOPE VI Activities on Cumberland County

The most significant economic impact of the Hope VI activities will not be felt until after completion of new homes and mixed income rental units in 2013. Once occupied, the redevelopment activity is expected to result in reduced poverty levels, increased quality of life, increased property values, and reduced crime rates.

In what follows, an estimate of the impact of HOPE VI expenditures to-date on the economy of Cumberland County is made. According to the 2010 annual report, \$5,927,764 was spent from the FMHA teams and case workers, etc. HOPE VI expenditures induced \$8,289,823 from other sources.

The economic impact of HOPE VI to-date is measured by the direct, indirect, and induced effects of expenditures.

The combined impact of HOPE VI and leveraged expenditures contributed almost \$19 million to total output of Cumberland County; increased value added by approximately \$8 million including \$6.09 million in additional labor income. It added almost 161.5 jobs to unemployment ridden Cumberland economy.

ENDNOTE

We gratefully acknowledge the critical review and valuable editorial assistance of Gregory McElveen. Errors, if any, are the authors'.

AUSTRIAN ECONOMICS AND FINANCIAL INFORMATION

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ABSTRACT

There are several prominent schools of thought that debate how a country should go about making this happen. Whether it be a Neoclassical or a Keynesian approach, or a more steady and consistent Monetarist method, world leaders invariably want to implement the strategy that will cause their nation's economy to flourish, thereby creating wealth. This paper examines the Austrian school of thought to economics. Three Austrians - Carl Menger, Friedrich von Wieser, and Eugen von Böhm-Bawerk - founded Austrian economics in the 19th Century. Being overshadowed by other philosophies after the death of its founders, Austrian economics is again rising in prominence.

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NOVEL SCHEME USING MOBILE TECHNOLOGY PLATFORM: A NIGERIAN CASE STUDY

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ABSTRACT

For the estimated 73 million mobile phone users in Nigeria, there are essentially two modes of purchasing credit to enable users to make phone calls. If you are not one of the 43,000 users connected to the internet that can purchase credit online, then the only option is to seek and buy credit from street vendors that sell paper based recharge cards that come in various denominations depending on the mobile service network provider. This process can create a number of challenges in a cash-carry society such as Nigeria, for example, mobile phone users may not have cash on hand to buy recharge cards and in rural Nigeria, and this process becomes problematic at sunset when electricity and security become tenuous forcing many vendors to stop selling early and customers to stay close to home. In this paper we propose an alternative means of obtaining phone credit with the aid of wireless communication at no extra cost to the subscriber. Using existing technology, we propose a mobile telecommunications platform that allows the end user to simply send a short-text message to a toll free number and within a few minutes receive notification that airtime has been credited to their phone. Our system will allow mobile phone users access to their bank remotely to transfer monies from their selected account to their mobile service provider. By improving accessibility, efficiency and security, our system will have a significant impact for many mobile users in Nigeria.

Key Words Mobile Technology, Nigeria, Rural

INTRODUCTION

The information age today allows individuals to be able to share information readily and easily and to have access to knowledge and information that would have otherwise been difficult in the recent past. More specifically, the one tool that has hugely impacted the way we transfer information is the mobile phone. Whilst Nigeria strives to advance its telecommunication services with over 10 wireless cellular network providers, rural Nigerian remains distinguishable from other international rural areas by way of its telecommunication service.

According to Dr Mongi Hamdi, Head of the Science, Technology and Internet and Communications Technology branch of the United Nations Africa is the most wireless continent. He further states that cell phones improve profits for farmers and business owners and facilitates a consumer society and provides less expensive access to communication. Cell phones replaces the internet for those who cannot afford computers and makes banking services accessible. A cell

phone can circumvent the frustration of other infrastructure, improves public health, boosts national productivity, and creates new jobs and business opportunities (Denison, 2008).

It has been reported by the Mobile media services at the Sub-Saharan African newspaper that just over 73 million Nigerians have mobile phones whilst only around 43,000 people are internet users (Bürén et al., 2011). One rationalization for the 80 million Nigerians is that many live in secluded and often remote areas and hence excluded from participating in the emerging information economy. As far back at 1990, very little has changed for the populous of Nigeria - indeed (Adimorah, 1990) proclaims that “our information services are still elitist, serving only 20% of the educated elite group while that 80% illiterate rural dwellers wallow in information deprivation.”

Money transfers, trading, checking market prices, contacting clients and wholesalers are just a few common activities the mobile phone facilitates. People in the transportation industry notify each other of where petrol is available, which roads to avoid, along with countless pieces of information is being exchanged daily on an individual basis without access to mass media (TV, radio, internet). Our project can allow these workers greater flexibility.

Currently in Nigeria, to recharge a mobile phone with credit the subscriber has two options. Firstly s/he can purchase a recharge card which reveals a 12 digit number; this is entered into the mobile, which, in turn, is forwarded for validation. This process has no upfront cost to the subscriber. The information is then relayed from the network provider through to the Base Sub Station (BSS) and to the Mobile Switching Center (MSC), which is a primary service delivery node for Global System for mobile communication. The MSC together with the Home Location Register perform authentication and then proceeds to the Intelligent Network (IN) application which houses the subscriber’s current balance information. The IN requests for the monetary value of the recharge card from the Central Voucher Server (CVS) which then updates the current balance and finally sends it back to subscriber. The subscriber then is notified of his/her new current balance via text messages. This process may take up to three hours during which time the subscriber is unable to make any further outgoing calls until s/he receives an alert stating that the transaction has been confirmed. This process can create a number of challenges in a cash-carry society such as Nigeria, for instance, mobile phone users may not have cash on hand to buy recharge cards and in rural Nigeria, this process becomes problematic at sunset when electricity and security become tenuous forcing many vendors to close-up shop and customers to stay close to home.

Secondly the subscriber can purchase credit online. Online recharge service saves on the limited network bandwidth that is otherwise used by the paper-based recharge transactions. Online recharge can now be done via the internet which in theory may eliminate the use of recharge cards entirely, thereby saving production and labor costs for these cards, as well as, removing the huge databases that generate the random numbers. With the online system, any dollar amount of recharge can be requested as oppose to the pre-set denomination with the paper based card system. The shortcoming of online recharging is that it is only limited to the 43,000 users connected to the internet.

In this paper we propose an alternative means of obtaining phone credit with the aid of wireless communication at no extra cost to the subscriber. Using existing technology, we propose a mobile telecommunications platform that allows the end user to simply send a short-text message to a toll free number and within a few minutes receive notification that airtime has been credited to their phone. Our system will allow mobile phone users access to their bank remotely to transfer monies from their selected account to their mobile service provider. By

improving accessibility, efficiency and security, our system will have a significant impact for many mobile users in Nigeria

PROPOSED SYSTEM

In addition to the paper and internet based services, our proposed system model aims to provide an alternative to the 80 percent of the population that are in rural areas and cannot readily access street vendors or the internet. Our system is known as *Money Mobile Credit-Flash* whereby the subscriber is able to upload phone credit via mobile technology. Our proposal is therefore an absolute wireless solution.

For the subscriber, the process is relatively easy and quick. There is an initial setup procedure to capture all the relevant data of the subscriber. Registration is a two step process: 1) set up bank account, and activate 'Credit Flash' service; 2) register with Money Mobile Credit-Flash InterSwitch provider that captures and stores the phone number and other user's details.

The subscriber registers his/her ATM card, which can be obtained from their bank of choice – this holds account details, the mobile number goes through a digital portal and is a unique personalized number is issued. At anytime the subscriber requires extra credit to their phone, a text message containing the personalized number along with the amount of credit demanded is sent to a toll-free number. This information goes through BSS and to the MSC where it then verifies that funds are available from the subscriber's bank account. Once verification is made, the subscriber's phone account is automatically updated and a text message is sent to the subscriber providing a confirmation of the credit received and the bank account balance.

We purpose a three tier architecture for the provision of our mobile money platform for use by mobile services users.

Figure 1: Basic system Architecture of Money Mobile Credit-Flash



The basic system architecture of *Money Mobile Credit-Flash* has three basic components as shown in figure 1. We shall look at each in turn.

The Mobile Subscriber Unit (MSU) is a mobile terminal or handset from which a customer can place a request and receive information. The MSU transmits data between two points without error; its main responsibilities are to transmit and receive information and to perform error and security control. Where mobile phones are used they must be multimedia handsets that can handle functions that include not just voice services but also text and graphics. Also such, mobile phones should be capable of running intuitive user interfaces. The MSU should be capable of providing the following three services: provide user input and reception; provide security to user inputs before they are received by the MMU; ensure that the MMU receive user input reliably.

The Mobile Money Unit (MMU) is the interface between the mobile subscriber and the bank. The MMU works on an agnostic platform i.e. it supports multiple data from various mobile wireless service providers protocols and traffic types (e.g., voice, data, and video), so that all traffic can be aggregated and administered at a single point. MMU is accessed independently in

that it should work with any network (fixed, wireless, or mobile) and includes any type of the access options, such as UMTS, GPRS, CDMA2000, WLAN, WiMax, etc. The unit should ensure that it receives the input from the MSU reliably. The unit is expected to decipher all information from the MSU and provide interface between it and the Interswitch/Banking unit. The unit should allow the request and sessions from various access networks to be processed automatically. Finally, the unit should be able to dispense credit requested by the various users after the Interswitch/ Banking unit have verified that the user has enough cash to endorse his/her demand.

The Interswitch / Banking unit will be responsible for the verification of the customers' account before it will direct the MMU to vend the credit. This unit will have access to all banks within Nigeria.

DISCUSSION

The potential new technologically mediated system that we propose should impact the lower economic status group in terms of their existing money transactions and financial practices. The target population will have equal opportunity to obtain credit for their mobile phones 24 hours a day which facilitates an ongoing business and personal interactions when traditional accesses to credit is not readily available or when security issues are jeopardized. The economic conditions in Nigeria are tenuous at times, however one stable force is the demand and usage of mobile phones. They are a relatively inexpensive means to access communication. Where the installation and maintenance of landlines are deemed expensive, for those who cannot afford this infrastructure, they can select mobile phones with prepaid cards. In a country such as Nigeria, the wait for expensive landline equipment can take years and many require political connections, mobile phones have a greatly expanded access to phone technology and mobile phone connectivity replaces the internet for those who cannot afford computers.

This proposal has a reasonable plan for accessing the target population because there is good telecommunication coverage in rural areas of Nigeria - this makes the likelihood of success of the plan very high. With a relatively developed telecommunication service in Nigeria, the proposed system becomes a realistic and plausible venture. With sound methodology, and access to the target population, there should be little room for failure.

This project will result in research that will shed light on important problems because mobile users in Nigeria need to have access to credit for their phones 24 hours a day for business, emergencies and personal use, whereby currently, this is not always possible - this is more apparent in rural areas where access to credit can take hours to obtain, with such challenges as limited transportation, poor road system, flooding, and sporadic electricity all contributing to the stress and anxiety.

The project is potentially transformative and scalable as there will be initial trials of the system in rural north east Nigeria. If the trials are successful, then the service is expected to expand to the more populated urban areas.

Our research system will provide generalizable knowledge and it will result in an in-depth knowledge of a particular region, people, social structure and business practices since the trial will begin in the most challenging of environments (remote communities), where access to products and services is particularly problematic.

There is little doubt that the mobile phone service provides significant economic gains for low income household earners. Providing an alternative means for simplifying life allows the

people to do what is really important and amongst the poor, it is about providing enough essentials by the day's end. The importance of communication in any country is obvious, in that, the interrelationship between economic development and effective telecommunication services are so interwoven that it seems impossible not to co-exist. The real value of a 'Credit-Flash' system is in the servicing of specific user needs. To elevate Nigeria from the depths of poverty and infested corruption, there is an intentional plan to empower users in providing an alternative credit-payment solution which extends telecommunication services to all users as a positive development.

In Business Day news, Emmanuel Okogwale, principal consultant shared his optimistic views on the mobile payment transaction developments of Nigeria. He states this will thrive to become the largest market in Africa, depending on the collaborative efforts of all stakeholders. He sees strong internal migration driving mobile remittances, and strong compelling services like agency banking for the underserved communities (Nigeria to become dominant in Africa's mobile payment market, 2012).

This proposal offers a unique alternative to the existing service rendered currently. Our 'Credit-Flash' system is considered more convenient, cleaner, safer, easier, and less obtrusive means of obtaining phone credit when required. This 'Credit-Flash' system suggests that it can cope with the challenges of the current infrastructure in the urban and rural settings of Nigeria. Currently, there is no network that provides a form of text-messaging credit recharge facility to its subscribers, which makes this potential project an unexplored opportunity.

CONCLUSIONS

This proposal is a technology advancement service that caters to all socio-economic status and educational level. It suggests the reduction of a cash-carry model, whereby limiting cash transaction from person to person. It suggests that for digital financial platforms to become sustainable, it is preferred that digital-digital transaction takes priority, and therefore this proposal hinges on the clients access to banking facilities easily and reliably. There are expected behavioral changes that will take place within individuals and households leading to new social practices. To fully realize the impact of a 'Credit-Flash' system, further study, research and consultation with key members of the business community must take place. It is expected that new theories, concepts and solutions will be brought forward to the academic community and a new phase will take precedence.

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THE US FINANCIAL CRISIS, EMERGING MARKETS AND THE EFFECTS OF IMF LOANS

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ABSTRACT

This paper analyzes the effects that outstanding IMF debt has on emerging markets. Essentially, it observes the responses of emerging markets to shocks in their economy when they are indebted to the IMF. We observe 35 emerging markets as defined by Dow Jones in 2010 and find that the GDP of the countries indebted to the IMF were more adversely affected by the US Financial Crisis than their counterparts who never indulged in IMF credit as well as those countries that were able to fully repay their debt. Our analysis indicated that not only being indebted to the IMF affected their ability to recover from the crisis but the size of the debt played an integral role in their economy's stability. Ultimately, we conclude that the IMF may be at fault in enabling emerging markets in their downward spiral of accumulating debt from which they are unable to emerge.

LEARNING BY DOING MODELS TO TEACH UNDERGRADUATE ECONOMICS

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ABSTRACT

There has been a lot of academic research about various teaching methods for economics courses. Rather than using traditional chalk and talk methods as a pedagogical tool, that have become less and less popular with students, academic research has started to focus on innovative teaching methods that could lead to more engaged students. Economics courses are also burdened with a reputation of being dry, boring, and too abstract with little real life applications etc. In this paper I describe an easy new tool that can be applied to make economics courses more interesting especially in business schools, as well as make it more application oriented. I describe a comprehensive project based learning approach for an introductory economics course and an international economics course, briefly review the course content and learning objectives and also provide some student feedback about the new technique used.

Keywords: Active Learning, Project Based Learning, Learning Outcomes, Teaching Economics in Business Schools.

EMPIRICAL INVESTIGATION AND MODELING OF THE RELATIONSHIP BETWEEN GAS PRICE AND CRUDE OIL AND ELECTRICITY PRICES

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ABSTRACT

Crude oil and natural gas are the main sources for energy in the US and around the world. Natural gas is a relatively clean source of energy compared to oil and could be cheaper to the consumer than oil especially if there is no coupling in price between oil and gas. Therefore, it is of interest to determine the long term relationship between oil and gas prices and to develop a model for predicting gas price. In this study, we used the Johansen integration test and showed that the logarithm of crude oil prices and the logarithm of natural gas prices are cointegrated in the sense that they are in a long term equilibrium relationship in which case the two series stay together and do not diverge over time. Any divergence is usually short term and eventually the two series come back together. Also, the logarithm of electricity price was found to be cointegrated with the logarithm of natural gas price. The logarithm of the GDP was also found to be cointegrated with that of natural gas price. Using data from 1973 to 2009, a time series model was developed that related the logarithm of natural gas price to that of crude oil and electricity prices. The model is useful for predicting, in the short run, gas price from knowledge of oil and electricity prices

EXAMINING NCAA/NFL MARKET EFFICIENCY

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ABSTRACT

Billions of dollars are wagered every football season in the hopes of identifying a winning strategy. Numerous articles have been conducted that try and identify inefficiencies in football betting markets. While many studies have determined that the betting market is efficient, there are a few articles that have identified potential anomalies in the football betting markets. The sustainability of these anomalies is still another question. This study takes an alternative approach in testing the market efficiency of betting on NCAA college football and National Football League (NFL) games. A unique, primary source data set was collected between 2003 and 2011, which offers some additional insight in the study of market efficiency that has not been included in previous studies. The results of this study indicate that the betting market is indeed efficient.

STUDENTS' VIEWS OF MARKET 'FAIRNESS'

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ABSTRACT

This study was prompted by the recent "Occupy" movements. This study employs eight (8) scenarios to investigate the existence of differences in the perception of the fairness of markets along both gender lines and major field of study. Data were gathered in an anonymous in-class survey of first-year university students. Overall, male students generally had a more favorable impression of markets than females. Surprisingly, the results of the Business and Non-Business students were mixed on the fairness of pricing.

INTRODUCTION

The typical introductory Economics text discusses "The Three Questions" that any society must address: 1) *What* goods are to be produced?; 2) *How* are those goods to be produced?; and 3) *For Whom* are the goods produced? When it comes to discussing the third question, the typical instructor in the United States focuses on the role played by markets. However, Colander (2003) contends that the current majority of principles textbooks "excludes discussion of a broader set of failures-of-market outcomes: failures in which the market is doing everything it is supposed to be doing, but society is still unhappy with the result" (p. 83). In today's society, recently highlighted by the various "Occupy" movements, to many people the issue is whether the market is "fair", or at least perceived to be "fair".

Kahneman, Knetsch, and Thaler (1986) studied the role played by the perception of fairness in explaining economic situations. The authors created 18 scenarios and collected data over 14 months in a series of telephone interviews of randomly selected residents of Toronto and Vancouver. The respondents were composed of an approximately equal number of both males and females, were read no more than five of the 18 scenarios, and were asked to respond to each scenario with the categories "Completely Fair", "Acceptable", "Unfair", and "Very Unfair". The two favorable responses and the two unfavorable responses were collapsed into the categories of "Acceptable" and "Unfair" to indicate the proportions of respondents who judged the action acceptable or not. Kahneman et al. found respondents had a strong aversion to price rationing, were more tolerant of price changes resulting from a changing cost structure (than to demand considerations), and generally disliked the use and exploitation of market power.

Gorman and Kehr (1992) used 16 of the 18 scenarios developed by Kahneman et al., and created six (6) additional contrasting scenarios. The authors mailed the survey to randomly selected business executives. The authors' intent was to determine whether a sample of business executives would respond to the scenarios in a different manner than the general population sample by Kahneman et al. With 154 business executives responding, the authors concluded that business executives were less inclined to judge the profit-maximizing behavior as unfair.

Shiller, Boycko, and Korobov (1991) designed 36 scenarios pertaining to "*fundamental* parameters of human behavior related to the success of free markets" (p. 386, italics in original).

The 36 scenarios were administered in a series of telephone interviews to residents of Moscow and New York City. For the scenarios pertaining to the fairness of pricing, the authors concluded “the reported evidence suggests there is actually little ground that the Soviets are characteristically more hostile toward free-market prices” (p. 390) and that notions of fairness in pricing are very situation-specific.

Whaples (1995) examined how the exposure to economic principles might influence beliefs regarding pricing in the market system. The author administered a survey consisting of six of the scenarios contained in Shiller et al. to 322 students enrolled in an “Introduction to Economics” course. Approximately one-half the students received the survey during the first week of the semester while the remaining one-half received the survey at the end of the semester. Whaples not only compared the pre- and post-course scores with the corresponding scenarios in the Shiller et al. study but also examined the scores by gender. Regarding the pre- and post-scores, Whaples concluded that exposure to economics seemed “to change many students’ minds about what is fair, convincing them that market outcomes are equitable” (p. 310). Initially, relative to the male students, female students were considerably less likely to regard the market outcomes as fair. By the end of the semester “female students were still less likely to consider the market outcomes fair, but the gap had narrowed considerably” (p. 310).

THE SURVEY INSTRUMENT AND ASSOCIATED MATERIAL

The first section of the survey requested demographic data from the individual respondent. Specific questions pertained to the respondent’s gender, age, ethnicity, and major field of study. The second section of the survey instrument consisted of eight scenarios that were used in either the Kahneman et al. study or the Shiller et al. study. Six of the eight scenarios pertained directly to a price increase in the market for a good. Some scenarios referenced demand-side effects, some referenced supply-side effects, and one referenced the effect of an increase in a tax. The two non-price scenarios pertained to the effect of a government-administered price ceiling (Scenario 2) and a government quota allotment (Scenario 5).

Three modifications to the scenarios used in the previous studies were enacted for this study. First, the Kahneman et al. study used a total of 18 scenarios, each respondent was asked no more than five scenarios while the Shiller et al. study used a total of 36 scenarios, with each respondent asked 12 scenarios. This study asked each of the respondents the same eight scenarios. Consequently, the sampling design differs from the previous two major studies. Second, the wording of three scenarios was modified slightly from the original studies to reflect societal changes and contextual changes. The three modifications to the original scenarios are the following. Scenario 1 references the price of “a certain product” increasing “after a natural disaster (for example, a tornado, a hurricane, a flood, or a blizzard)” while the Kahneman et al. scenario specifically referenced an increase in the price of “snow shovels” after “a large snowstorm.” Although a snow shovel is a product to which residents in Toronto and Vancouver could relate, it is not necessarily an appropriate item for all regions in North America. Scenario 7 was also modified slightly. The original question in the Shiller et al. study was “On a holiday, when there is a great demand for flowers, their prices usually go up.” Scenario 7 was rewritten to appear as “Before Valentine’s Day, florists usually increase the price charged for red roses.” A similar change occurred in Scenario 8 as Shiller et al. used “A new railway line makes travel ...” but this reference was changed to “A new highway makes travel ...”. Third, both Kahneman et al. and Shiller et al. reported the results for each scenario as binary responses. Kahneman et al.

collapsed the four categorical responses into two, “Acceptable” and “Unfair”, while Shiller used only “Yes” and “No” as the two possible responses. In this study, respondents were asked to respond to scenarios on the “0% to 100% continuum,” with “0%” indicating “Very Unfair” and “100%” indicating “Very Fair.” Since very few issues in life related to personal perception are decided in a binary manner, the continuum was deemed the more robust manner in which to gather information and gauge these perceptions.

The survey was administered anonymously during the second week of the Fall 2011 semester in a 100-level (first year) course, Consumer Economics. This course is viewed as a “selective” in one of the topic areas of the University Core Curriculum, as a student can satisfy this requirement by selecting one of the five courses listed. This course was desirable to survey for two reasons. First, students enrolled are typically in the first year of university studies, with no previous coursework in economics principles at the university level. Secondly, since the course is a part of the University Core Curriculum, a wide variety of majors will be represented.

SURVEY RESULTS

A total of 181 survey instruments were used in this study (55 females and 126 males). The ages of the respondents ranged from 17 to 30, with a mean of 19.6 years and a median of 19 years. In terms of intended major, 84 (46%) of the students indicated they were planning to major in Business and 97 (54%) planning to pursue non-Business majors (48 in Liberal Arts, 39 in Fine Arts, eight in Education, and two Undecided).

Whaples observed that, at the start of the economics course, females “were considerably less likely than males to regard the market outcome as fair” (p. 310). For the six price-related scenarios, all showed males to have a more favorable view of the role of markets. There are two scenarios in which the difference in means is statistically significant at the six percent level. In both Scenarios 3 and 7 males were more accepting of the price increase for the situation portrayed than females. Scenarios 2 and 5 assessed the respondent’s view of government involvement in the market. Scenario 2 pertained to the government installing a price ceiling after a natural disaster. Although not statistically significant at the ten percent level, females were generally more accepting of such action than males. Scenario 5 pertained to the government restricting gasoline consumption by limiting the amount of gasoline that could be purchased by consumers. Although not statistically significant at the ten percent level, males were more accepting of this form of government involvement in the marketplace.

Carrithers and Peterson (2006) describe an educational disconnect in the manner in which the role of markets is presented in institutions of higher learning. The basic premise of their study is that “business and economics faculty focus on the function of markets, the benefits of market economies, and the conduct of business within market economies while A&S faculty focus on flaws and failures of market economies” (p. 373). The authors fear the pedagogical gap will be harmful to students in that if the student hears only one perspective, it “reduces the abilities of our students in their future roles as citizens and leaders” (p. 375).

In terms of major field of study, there are two price-related scenarios in which the difference between the means is statistically significant at the ten percent level, both of which were a moderate surprise. The mean response for Business students in Scenario 6 was larger than that for Non-Business majors. At first, this was not what was expected, *a priori*. However, Kahneman et al. concluded that “Judgments of fairness are susceptible to substantial framing effects” (p. 740) and Shiller et al. noted that “notions of fairness are very situation-specific” (p.

389). The initial clause of Scenario 6 frames the major issue with “Suppose the government wishes to reduce the consumption of gasoline”. It is not so much the price increase as for the reason for the tax - an attempt to reduce the consumption of gasoline. Scenario 8 referenced raising rents after a new highway has been built. Non-Business majors thought this was relatively fairer than the Business majors. One of the two non-price scenarios was statistically significant at less than the one percent level. Scenario 5 addressed the government attempt to reduce the consumption of gasoline by limiting the number of gallons purchased by consumers. Business majors thought this initiative was generally fairer than did Non-Business majors.

CONCLUSIONS

The objective of this study was to investigate the existence of differences in the perception of markets along both gender lines and major field of study. This study found male students generally had a more favorable view of markets than female students but that this difference was not particular strong in a statistical framework. This study also found a pronounced difference in the perception of markets between Business and non-Business majors.

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Table 1					
SCENARIOS, DESCRIPTIVE STATISTICS, AND TESTS OF HYPOTHESES					
For each of the following questions, please use the following scale:					
Very Unfair 0%	Unfair 20%	Moderately Unfair 40%	Moderately Fair 60%	Fair 80%	Very Fair 100%
Please indicate your <i>perception of the fairness</i> of each statement below by writing a number between “0%” and “100%” in the blank to the left of the statement. Please use the numbers between “0” and “100” to reflect the degree to which you agree with the statement. Specifically, if you feel the situation described in the statement is <i>very unfair</i> then you should write a number in the blank close to “0” or if you feel the situation described is <i>generally unfair</i> then you should write some other number, say “30”. Alternatively, if you feel the situation described in the statement was <i>very fair</i> then you should write a number close to “100” in the blank or if you feel the situation described was <i>generally fair</i> then you should write some other number, say “70”.					
Situation/Scenario	Cohort	Characteristic: Mean St. dev.		$H_1: \mu_1 - \mu_2 \neq 0$ $Pr > t $	
1. A store has been selling a certain product for \$15. The morning after a natural disaster (for example, a tornado, a hurricane, a flood, or a blizzard) the store raises the price to \$30. To what degree is the increase in this price “fair”? (Kahneman, et al., #1)	Overall	34.867	26.018		
	Females	31.091	24.790		
	Males	36.516	26.464	0.198	
	Business	34.167	26.399		
	Non-Bus	35.474	25.807	0.737	
2. In the situation described above, assume the government establishes a maximum price that limits the price that a business can charge for the product to the pre-disaster price. To what degree is the government’s action to limit the price increase “fair”? (Shiller, et al., #B3)	Overall	61.271	24.262		
	Females	64.546	22.736		
	Males	59.841	24.851	0.231	
	Business	59.821	22.461		
	Non-Bus	62.526	25.771	0.456	
3. A small factory produces tables and sells all that it can make at a price of \$200 apiece. Because of reductions in the price of materials, the cost of making each table recently decreased by \$20. The factory does not change its price of the tables. To what degree is the decision of the business “fair”? (Kahneman, et al., #11B)	Overall	61.547	22.969		
	Females	56.636	24.945		
	Males	63.691	21.810	0.057	
	Business	61.964	21.496		
	Non-Bus	61.186	24.279	0.821	
4. A small factory produces tables and sells all that it can make at a price of \$200 apiece. In fact, the factory cannot produce enough tables to satisfy all the people who want to purchase one. The factory decides to raise the price of the table by \$20 even though there was no change in the cost of producing the tables. To what degree is the increase in this price “fair”? (Shiller, et al., #B11)	Overall	59.337	25.212		
	Females	56.273	26.566		
	Males	60.675	24.587	0.281	
	Business	60.000	24.593		
	Non-Bus	58.763	25.850	0.743	
5. Suppose the government wishes to reduce the consumption of gasoline. The government decides to limit gasoline stations from selling more than five gallons of gasoline to any one person. To what degree is the government decision to limit the sale of gasoline “fair”? (Shiller, et al., #C4-1)	Overall	27.534	24.969		
	Females	23.273	21.714		
	Males	29.135	26.145	0.147	
	Business	33.214	26.815		
	Non-Bus	22.278	22.164	0.003	
6. Suppose the government wishes to reduce the consumption of gasoline. The government decides to place a major tax on gasoline that will increase the price of gasoline. To what degree is the government decision to place a tax on gasoline “fair”? (Shiller, et al., #C4-2)	Overall	26.193	22.945		
	Females	25.818	19.501		
	Males	26.357	22.328	0.885	
	Business	30.833	22.722		
	Non-Bus	22.175	22.443	0.011	
7. Before Valentine’s Day, florists usually increase the price charged for red roses. To what degree is this increase in price “fair”? (Shiller, et al., #B2)	Overall	63.232	26.144		
	Females	55.818	28.460		
	Males	66.468	24.487	0.011	
	Business	64.167	26.112		
	Non-Bus	62.423	26.281	0.656	
8. A new highway makes travel between city and summer homes positioned along the highway substantially easier. Accordingly, summer homes along the highway become more desirable and rents on these homes have increased. To what degree is the increase in the rental price “fair”? (Shiller, et al., #A9)	Overall	66.155	22.856		
	Females	62.636	25.219		
	Males	67.691	21.672	0.172	
	Business	63.036	24.606		
	Non-Bus	68.856	20.980	0.088	

