

Economic Context

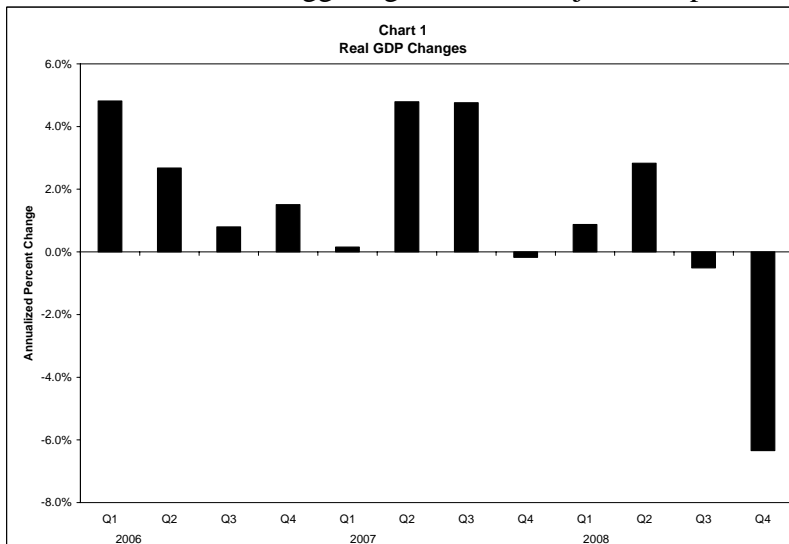
2009 Valuation of State-Assessed Properties

Overview of U.S. and California Economies

U.S. Economy and Financial Markets

Recession Greatly Intensifies in Fall of 2008. What began as a relatively mild recession in January 2008 gathered momentum quickly in September as the solvency of major financial institutions collapsed and financial markets were seriously disrupted. The deep recession continues with a vengeance so far in 2009, as many economic analysts believe we are now in the midst of what is likely to be the deepest and longest recession since World War II. U.S. real gross domestic product (GDP) fell at annual rate of 6.3 percent in the fourth quarter of 2008, the largest decrease since 1982 (See Chart 1). All sectors of the private U.S. economy declined in the fourth quarter, as the federal government was the only major category of the economy that increased. Some of the declines were staggering. Inflation-adjusted exports

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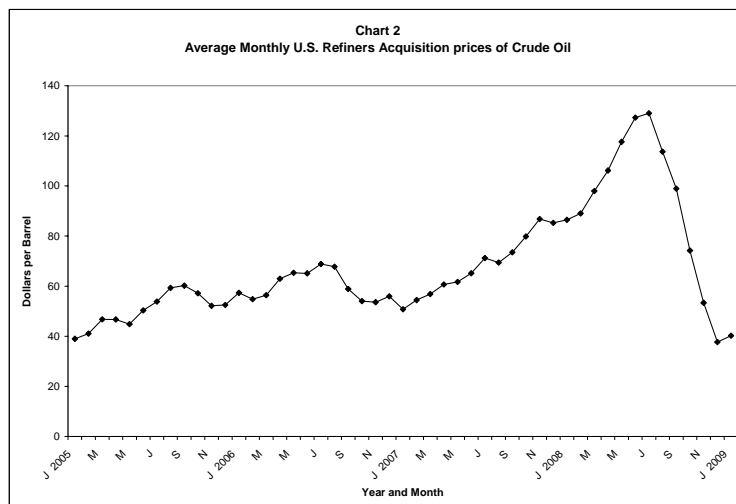


decreased at an annualized rate of 24 percent in the fourth quarter, and business investment decreased at a rate of 22 percent. Consumer spending fell at a rate of 4 percent, led by a 22 percent. Consumer spending fell at a rate of 4 percent, led by a 22 percent decrease in consumer durable goods such as automobiles.

The average U.S. refiners' acquisition price for crude oil rose from \$86 per barrel in January 2008 to \$129 per barrel by July before dropping steeply to \$38 per barrel by December

Recap of 2008. Real GDP increased 1.1 percent for all of 2008, compared to a ten-year average of 2.6 percent annual growth. Even before the financial crisis of September, economic growth was very weak and would have been much weaker were it not for a tax rebate that bolstered incomes of many households in the second and third quarters. The *Economic Stimulus Act of 2008* provided \$152 billion of economic stimulus payments to 130 million households, beginning in May 2008. According to the U.S. Bureau of Economic Analysis, the act added about 0.7 percent to 2008 real GDP, more than half of the actual growth.

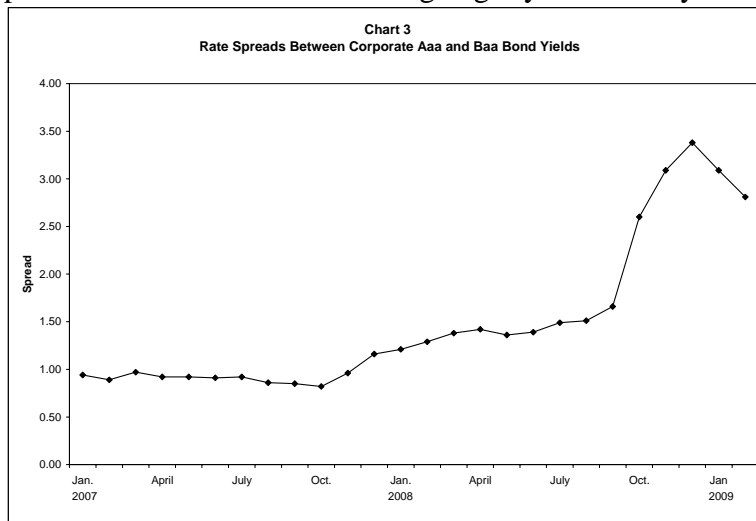
In addition to the weak overall economy, high energy prices reduced household incomes much like a tax increase in the first half of 2008 before the financial crisis hit in September. Energy prices reached record levels in July before plummeting by the end of the year as the economy weakened. The average U.S. refiners' acquisition price for crude oil rose from \$86 per barrel in January 2008 to \$129 per barrel by July before dropping steeply to \$38 per barrel by December (see Chart 2). The crash in oil prices and the weak economy combined to provide relief regarding inflation. U.S. consumer prices were only 0.1 percent higher in December 2008 than they were in December 2007.



Policy Responses. Monetary and fiscal policy makers responded in several ways to the weak economy in late 2008 and early 2009; some of these actions were without precedent. In efforts to keep financial markets from totally collapsing, the Federal Reserve Board (Fed) injected hundreds of billions of dollars into troubled institutions. In October 2008 the *Emergency Economic Stabilization Act* was enacted, which among other actions, authorized funds for a \$700 billion Troubled Asset Relief Program (TARP). In December the Fed reduced the target federal funds rate to close to zero. In February 2009, the President signed a \$787 billion stimulus package, the largest spending bill in U.S. history, designed to boost economic growth.

Interest Rate Impacts. With the financial turmoil, the interest rate spread (difference between rates) between what investors perceive as safe loans and more risky loans widened substantially. In February 2009, the interest rate for three-month U.S. Treasury bills averaged 0.3 percent, while ten-year U.S. treasury bonds averaged a yield of 2.9 percent. In contrast to these safe assets, interest rates for corporate bonds were much higher, especially for corporations without the highest credit ratings. The average interest rate for Aaa bonds was 5.3 percent in February 2009, while the average for Baa bonds was 8.1 percent, a difference of 2.8 percentage points. As shown in Chart 3, the spread between these two bond categories widened from close to 1.0 percentage point in early 2008 (which is about the historical norm) to 3.4 percentage points in December before falling slightly in February.

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Plummeting Corporate Earnings and Stock Indices.

U.S. corporate earnings before taxes declined 10.1 percent in 2008. In the fourth quarter of 2008 corporate earnings were 21.5 percent below those of the fourth quarter of 2007. Major stock market indices have also declined precipitously. The Standard and Poor's composite stock index decreased 37 percent from January 2008 to January 2009. In January the Standard and Poor's composite stock index stood near the same level as in early 2003, as six years of growth in the index were wiped away.

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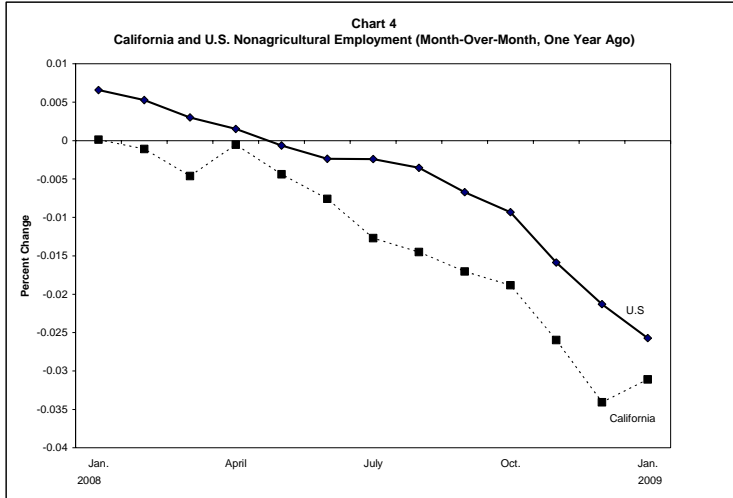
Definitely Weak But Extremely Uncertain Outlook for 2009. The U.S. unemployment rate rose from 7.2 percent in December 2008 to 8.1 percent in February 2009, the highest rate since 1983. With the economy in such an unprecedented state compared to most of the last sixty or more years, historical relationships among economic indicators are of little value in short-term economic forecasting. Few economists believe that the recession will end before late in 2009. A February 2009 survey of about 50 professional forecasters polled by the Federal Reserve Bank of Philadelphia calls for real GDP to decrease 2.0 percent in 2009, assuming a turnaround to positive growth in the third quarter, which now may look overly optimistic.¹ The economists polled assumed, on average, a federal stimulus package of \$806 billion, which was relatively close to the size of the one enacted.

California Economy

California Fares Worse Than National Economy.

Available data indicate that the California economy is faring worse than the U.S. economy so far in the recession. Chart 4 compares U.S. and California year-over-year percentage changes in monthly nonagricultural employment (one of the broadest measures of economic activity available to states on a timely basis). For all of 2008, California nonagricultural employment decreased 1.2 percent, compared to a 0.4 percent decline for the U.S. as a whole. California is also suffering a much higher unemployment

¹ "Survey of Professional Forecasters," Federal Reserve Bank of Philadelphia, February 13, 2009.



rate that the U.S. In February 2009, the California unemployment rate was 10.5 percent, compared to a U.S. rate of 8.1 percent.

With the subprime mortgage crisis well established before the recession started, residential construction activity fell dramatically in California in 2008 from what was already a very low level in 2007 compared to historical averages. A total of 65,000 residential construction permits were issued in California in 2008, the fewest on record. Early data for 2009 indicate even fewer permits are likely to be issued this year. As measured by permits, residential construction activity is less than one-third of its levels at the peak of the housing boom that preceded this recession. In 2004, the highest year of the most recent housing boom, 213,000 permits were issued.

Not only is California sharing in the national recession, but weather patterns in this state over the past couple of years have resulted in a severe drought. The drought is expected to reduce incomes and jobs in agriculture. Other water-related activities such as fishing and boating are also expected to decline, contributing to weaken economic activity even further. According to a University of California study, the drought could cost the state about \$2 billion in lost income and 80,000 jobs.² In addition to direct declines in water-related economic activities, the drought will also reduce electrically generated by hydrologic sources, forcing more expensive generation from alternative sources.

² "Delta cutbacks put Valley Town on edge," *Sacramento Bee*, March 2, 2009.

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Electricity and Natural Gas Industries

Recap of 2008 Assessments. Electric, natural gas, and water companies accounted for about 63 percent of all Board-assessed values in fiscal year 2008-09. Electric generating facilities firms accounted for 15 percent of the total value for these companies. The vast majority of the remaining 85 percent of assessed values for electric, natural gas, and water companies were accounted for by the large regulated utilities: Pacific Gas & Electric, Southern California Edison, Southern California Gas, and San Diego Gas and Electric.

An important piece of legislation was passed regulating the emission of greenhouse gases emitted by power plants.

Electricity

Regulatory Background. Traditionally, natural gas and electricity markets were heavily regulated as “natural monopolies” through most of the twentieth century. In the late 1990s, California began using a more market-based regulatory structure. Now the transmission and distribution systems remain regulated, while the generation system is market-based for generating facilities not owned by the utilities.

Much of the current mixed regulatory system resulted from the consequences of a severe energy crisis that developed in California in 2000 and 2001. This crisis resulted in Pacific Gas & Electric’s (PG&E), a major California electric utility, becoming financially insolvent in early 2001 because the company was unable to pass on dramatic increases in wholesale electricity prices charged by generators. In April 2004, PG&E emerged from bankruptcy and once again appears to be healthy financially.

More Renewable Energy Encouraged. In 2006, an important piece of legislation was passed regulating the emission of greenhouse gases emitted by power plants. AB 32³, the California Global Warming Solutions Act of 2006, will “...require the state [Air Resources] board to adopt regulations to require the reporting and verification of statewide greenhouse gas emissions and to monitor and enforce compliance with this program as specified. The bill would require the state board to adopt a statewide greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions levels in 1990, to be achieved by 2020, as specified.” The bill also authorizes the Air

³ Assembly Bill 32 (Nunez), Chapter 488, Statutes of 2006.

Resources Board to adopt market-based compliance mechanisms to achieve the greenhouse gases limits. AB 32 also states that it does not affect "...the obligation of an electrical corporation to provide customers with safe and reliable electric service."

In December 2008, the California Air Resources Board approved a scoping plan, as required by AB 32.⁴ According to the California Energy Commission, about 12 percent of the California retail electricity load is currently met by renewable resources. The renewables share is expected to increase to 20 percent by 2010 under the current Renewables Portfolio Standard (RPS). The scoping plan increases the renewables standard to 33 percent of the retail electricity load by 2020. How utilities will achieve this standard is unclear in the scoping plan, but it seems likely that utilities will need rate based regulations to pay the increased costs of meeting the higher standard.

The scoping plan includes a mix of direct mandates and a market-based cap-and-trade program. Details of the cap-and-trade program are yet to be specified in detail.

How AB 32 will affect electricity generators is not yet clear. If market-based compliance solutions are adopted, the ownership, quantities and market values of emissions trading rights would need to be determined and evaluated. In addition, the costs of various technological solutions to reduce power plant emissions would need to be analyzed, along with the values of electricity usage conservation by customers. AB 32 likely would result in the state attaining its goal of generating more electricity from renewable resources.⁵

Many specific incentives to generate more electricity from renewable resources still need to be formulated and implemented. However, progress is being made towards this goal. The California Energy Commission adopted greenhouse gases emissions standards for electric public utilities in August 2007.⁶ In addition to the California incentives, the federal economic stimulus package had several provisions to increase or expand incentives for generating more electricity from renewable sources.⁷

The scoping plan increases the renewables standard to 33 percent of the retail electricity load by 2020.

⁴ *Climate Change Proposed Scoping Plan*, California Air Resources Board, October 2008.

⁵ *2006 Integrated Energy Policy Report Update*, California Energy Commission, January 2007,

⁶ *Solar Energy: As the Cost of This Resource Becomes More Competitive With Other Renewable Resources, Applications to Construct New Solar Power Plants Should Increase*, California State Auditor, January 2008.

⁷ *Description of the American Recovery and Reinvestment Tax Act of 2009*, U.S. Congress Joint Committee on Taxation, JCX-10-09, January 23, 2009.

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There is much activity towards achieving the goal of using more renewable energy sources in generating electricity. According to the California Energy Commission, many large solar energy projects are being proposed in California's desert areas on federal Bureau of Land Management (BLM) land. The BLM has received right-of-way requests for 34 large solar thermal power plant projects totaling about 24,000 megawatts.

The unprecedented financial crisis discussed earlier has brought about dramatic changes in the competitive balance of investment costs between public utilities and generators.

Investment Outlook. Sources of electricity generation in California are a mix between public utilities, which are rate-regulated, and companies which only generate electricity, which are not rate-regulated. The unprecedented financial crisis discussed earlier has brought about dramatic changes in the competitive balance of investment costs between public utilities and generators. Public utilities are perceived by investors to be one of the few relatively safe places to invest money in the current financial environment. Generators are perceived to be much more risky. As mentioned earlier, the spread between Aaa bonds and Baa bonds, which roughly parallels the costs of capital for these two kinds of companies, is at its highest level since the 1930s. As a result, public utilities have a relatively large advantage of lower borrowing costs than generators. In addition, public utilities have the ability to increase rates to customers for purposes of building electrical generating capacity from renewable sources such as solar. And last fall, as a part of Congressional moves to stimulate the economy, public utilities became eligible for federal tax credits for renewable electricity generation.

Short Run Electricity Outlook. While the California public utilities, which are regulated, are currently healthy, the outlook for the deregulated electric generating facilities is mixed. There appears to be a short-run electricity generating capacity surplus in California. More new generating facilities are under construction and are scheduled to come on-line in the next few years. As a result, many old generating facilities which are not as efficient as the new ones, are expected to be retired. Before demand can catch up with the new supply, newly constructed generating facilities may experience lower than expected returns on their investment in the short-run.

Natural Gas

Unless price increases are dramatic, valuations of gas and electric distribution utilities are not materially affected by natural gas prices because increases are passed directly to the consumers, and not borne by the utilities. However in the long term outlook, natural gas prices affect the competitiveness of alternative renewable sources of electricity generation such as wind and solar energy.

Natural gas prices at the wellhead were relatively high in early 2008, but prices declined sharply with the weakening economy. U.S. natural gas prices at the wellhead fell from a high of \$9.86 per thousand cubic feet (Mcf) in the second quarter of 2008 to \$6.06 in the fourth quarter. With the weakening economy, the U.S. Energy Information Administration (EIA) expects wellhead prices to decline further throughout most of the rest of this year. The EIA predicts wellhead natural gas prices to average \$4.22 per Mcf in 2009, a 48 percent drop from the average price in 2008.⁸

Communications Industries

Recap of 2008 Assessments. Telephone and telegraph companies accounted for 33 percent of all Board-assessed values in fiscal year 2007-08. Local exchange companies had the highest valuation, followed by wireless and interexchange companies. Local exchange carriers accounted for 48 percent of Board-assessed values in the telephone and telegraph industries in fiscal year 2008-09. Wireless companies accounted for 36 percent of Board communications assessments and interexchange companies 16 percent.

Developments in Recent Years. In September 2007, the California Public Utilities Commission took action to deregulate the telephone industry by making changes that will reduce subsidies that support universal service goals. The approach relies heavily on competitive market forces to keep basic rates affordable. Deregulation will be phased in over several years to avoid the risk of sudden large rate increases for basic service.⁹

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⁸ "Short-Term Energy Outlook – March 2009," U.S. Department of Energy, Energy Information Administration, 2009.

⁹ "Interim Opinion Adopting Reforms to the High Cost Fund-B Mechanism," California Public Utilities Commission, Decision 07-09-020, September 6, 2007.

In 2006, an important piece of legislation was passed that changes the regulatory framework for cable television service providers. Among other measures, AB 2987¹⁰ (the Digital Infrastructure and Video Competition Act of 2006) established a procedure for the issuance of state franchises for the provision of video service. As a result of the bill, both cable service providers and telephone companies could obtain statewide video franchises through a streamlined process that does not require separate franchises in each individual city or county in which they operate. Such “one-stop shopping” is intended to promote competition for broadband and video service.

Today's communications companies must provide more than one service in order to remain competitive.

Competition in Communications. AB 2987 is hastening convergence among telephone and cable service providers that has been made possible by recent technological advances. There are very few “pure play” communications companies any more. Today’s communications companies must provide more than one service in order to remain competitive. Convergence is occurring on many different levels, both for business and household end users. Intensifying competition and convergence among telephone, cable, Internet, wireless and satellite service providers has caused these various services to become more similar to one another. Competition and interrelationships among these services are providing more choices for consumers and businesses. Bundled services of wireless and wireline phone service, high speed Internet service, and cable television service all provided by a single company are seen by many communications industry analysts as a way to increase profits. However, to provide these services efficiently requires huge investments and the ability to spread fixed costs over large numbers of customers.

A 2005 article in *Business Economics*, the journal of the National Association for Business Economists, concludes that there is significant competition in the communications industry:

The research presented here provides some evidence in the deregulation debate. The finding that intermodal competition is significant in the communications market and that local competition is enhanced by it suggests

¹⁰ Assembly Bill 2987 (Nunez), Chapter 700, Statutes of 2006.

regulatory policies ought to account for these effects – perhaps without regard to CLEC [*competitive local exchange carrier*] line share.¹¹

Wireless Services Revenues Converging With Wired.

U.S. wireless communications carriers increased their productivity by an average of 9.7 percent per year from 1987 to 2006, putting the industry among the fastest in long-term productivity growth.¹² The wireless industry has grown rapidly in recent years, and its revenues are beginning to approach those of wired services. At its peak in 2000, U.S. wired services revenues were about \$270 billion, while U.S. wireless revenues were about \$66 billion.¹³ By 2007 wired services revenues declined about 29 percent to \$193 billion. Over the same time period wireless services revenues increased 164 percent to \$174 billion. Total U.S. wired and wireless communications industry revenue increased 3.7 percent in 2007 to \$367 billion.

Fewer Wired Access Lines, More Wireless

Subscriptions. Because of definitional differences, classifying access line changes can vary greatly depending on the source from which they are derived. Furthermore, unknown numbers of traditional telephone access lines, rather than disappearing, have instead been replaced by broadband lines. However, most analysts agree that numbers of general use wired access lines have decreased in recent years, while wireless subscriptions have increased. According to Federal Communications Commission (FCC) data, the number of U.S. wireline telephone lines peaked at 192.4 million in 2000 then declined by about 13 percent to 167.5 million lines by 2006.¹⁴ In contrast, U.S. wireless subscriptions increased from 97.0 million in 2000 to 262.7 million by June 2008.¹⁵

Wireless substitution is seen as a significant reason for the decline in access lines. Many consumers are using

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¹¹ “Competition in Local Communications,” Christopher Swann and David G. Loomis, *Business Economics*, National Association for Business Economists, April 2005.

¹² “Productivity And Costs by Industry: Selected Service-Producing and Mining Industries, 2006,” U.S. Bureau of Labor Statistics, May 21, 2008.

¹³ *Service Annual Survey*, U.S. Census Bureau, March 2009 and prior issues.

¹⁴ *Trends in Telephone Service*, Federal Communications Commission, August 2008.

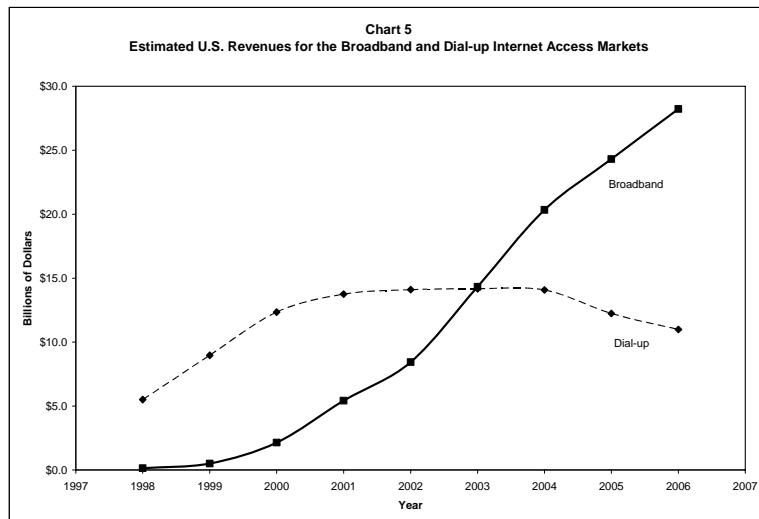
¹⁵ CITA-The Wireless Association.

U.S. broadband subscriptions for homes and businesses increased 52 percent in 2006, to 64.6 million lines.

wireless phones in lieu of having wired telephone line. Younger households, in particular are making this substitution. In 2008 18 percent of all U.S. households had only wireless phones, a sharp increase from 4.2 percent in 2003.¹⁶

Broadband Adoption Widespread. U.S. broadband subscriptions for homes and businesses increased 52 percent in 2006, to 64.6 million lines. Close to half of the 2006 broadband growth was on mobile wireless platforms. Broadband adoption was widespread among many socio-demographic groups. Furthermore, average U.S. household digital subscriber line (DSL) broadband prices have dropped from \$38.00 to \$32.00 per month since the early 2000s. Cable modem users reported unchanged average prices of \$41.00 per month.¹⁷ In 2005 about 64 percent of U.S. households had either broadband or narrow band Internet access.¹⁸ Chart 5 shows estimates of revenues derived from broadband and dialup service to U.S. households.¹⁹ According to these estimates, broadband revenues accounted for about 72 percent of all Internet access revenues paid by households in 2006.

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¹⁶ *Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services*, Released January 15, 2009, Federal Communications Commission.

¹⁷ Written Statement of Kevin J. Martin, Chairman, Federal Communications Commission, before the Committee on Commerce, Science and Transportation, U.S. Senate, February 1, 2007 and *High-Speed Services for Internet Access: Status as of June 30, 2006*, Federal Communications Commission, January 2007.

¹⁸ "U.S. Households' Internet growth will be flat in 2006," *Internet Retailer*, March 7, 2006.

¹⁹ Source: *The Broadband Bonus: Accounting for Broadband Internet's Impact on the U.S. GDP*, Shane Greenstein and Ryan C. McDevitt, National Bureau of Economic Research, Working Paper 14758, February 2009.

VOIP Technology Gaining Rapid Adoption. In recent years the Internet has become the key component of the communications industry. A relatively new technology, Voice Over Internet Protocol (VOIP), converts a voice telephone call into “packets,” sends them over the Internet, and reconstructs the packets at the destination of the call. Compared to conventional telephone transmission technology, VOIP is relatively inexpensive. Many communications companies, including wireless companies, are already using the technology. It is also possible for consumers to use VOIP directly and bypass the need for local telephone service.

Cost is only one of the many factors favoring VOIP. Growth of mobile phones, the Internet, and the rapid integration of wireless and wireline service (the so-called Fixed Mobile Convergence) are additional reasons for its growth. VOIP allows a seamless integration of wireline, wireless and Internet services.²⁰

Benefits to Consumers. Adoption of many of the technological changes discussed above and increased competition in communications have benefited consumers. Prices have declined for both wireline and wireless phone service over the past several years. According to the FCC, “In 2005, the price for long distance service was two-thirds of what it was in 2000, wireless phone service was half of its 2000 level, and the price for placing an international call was a quarter of what it was in 2000.”²¹ Other data show that the consumer benefits for wireless subscribers have continued since 2005. U.S. data available show that the numbers of wireless subscribers and minutes of usage rose while the average price per minute declined. In 2006, wireless subscriptions increased 13 percent, the average minutes of usage rose 16 percent, and the average price decreased 14 percent.²²

“In 2005, the price for long distance service was two-thirds of what it was in 2000, wireless phone service was half of its 2000 level, and the price for placing an international call was a quarter of what it was in 2000”

Railroad Transportation

Recap of 2008 Assessments. Railroad companies accounted for about 2 percent of all Board-assessed values in fiscal year 2008-09.

²⁰ “VOIP is the New POTS,” *VON Magazine*, January 15, 2006.

²¹ Written Statement of Kevin J. Martin, Chairman, Federal Communications Commission, before the Committee on Commerce, Science and Transportation, U.S. Senate, February 1, 2007.

Rail Industry. After a series of mergers that took place over many years, the number of U.S. Class I railroad companies has declined to just seven.²³ Four of these companies haul 95 percent of all U.S. freight traffic. Despite this market concentration, many analysts believe that the mergers have been successful in lowering costs, achieving economies of scale, and improving efficiency.²⁴

In late 2008 Value Line estimated that U.S. railroad industry profits rose about 10 percent in 2008 to about \$9.9 billion, which would be more than double their 2002 amount.

Rail Affected by Economy and Energy Prices. Revenue and profit growth in the rail industry tend to be highly correlated with the overall economy and inversely related to trends in crude oil prices. Over the past several years the railroad industry has performed well. In late 2008 *Value Line* estimated that U.S. railroad industry profits rose about 10 percent in 2008 to about \$9.9 billion, which would be more than double their 2002 amount.²⁵ However, with the economy weakening and energy prices falling in late 2008, the outlook for the rail industry in 2009 is for declines in revenues and profits. Shipping volumes declined at double digit rates in late 2008, and low volumes are expected to continue until the economy turns around.

²² “U.S. Communications Regulation and Market Developments,” a presentation by Chairman Kevin J. Martin, Federal Communications Commission, February 2007.

²³ The source of the following discussion is “Railroads; Asleep at the Switch,” *Businessweek*, April 2, 2001. Class I rail companies are defined as those with revenues over \$250 million and which generally operate across state lines. The number of Class I railroad companies was updated to reflect 2005 data using the *2008 Statistical Abstract of the U.S.*, U.S. Census Bureau.

²⁴ A study of operating efficiencies of the 1996 merger of the Union Pacific Railway Company and the Southern Pacific Transportation Company is found in “The Union Pacific/Southern Pacific Rail Merger: A Retrospective on the Merger Benefits,” Dennis A. Breen, Federal Trade Commission, March 11, 2004. The study also includes discussion of the results of other studies made.

²⁵ “Railroad Industry,” Value Line Publishing, Inc., December 5, 2008.