OKLAHOMA BUSINESS BULLETIN

OVERVIEW

The University of Oklahoma is a doctoral degree-granting research university serving the educational, cultural, economic and health care needs of the state, region and nation. Created by the Oklahoma Territorial Legislature in 1890, the university is composed of campuses in Norman and Oklahoma City as well as the Schusterman Center in Tulsa. The university's main campus and the offices of administration of the University of Oklahoma are located in Norman. The OU Health Sciences Center, which is located in Oklahoma City, is the headquarters for the seven professional colleges and offers programs at the University of Oklahoma - Tulsa. OU-Tulsa is composed of the Schusterman Center, where the majority of OU programs serving Tulsa are located; the OU/OSU Research and Graduate Education Center, a collaborative effort to provide graduate education and research programs to the Tulsa metropolitan area; and several clinics and hospitals. OU enrolls almost 29,000 students, has approximately 1,900 full-time faculty members, and has 19 colleges offering 154 majors at the baccalaureate level, 152 majors at the master's level, 74 majors at the doctoral level, eight majors at the first professional level, and five graduate certificates. The university's annual operating budget is more than $1 billion. The University of Oklahoma is an equal opportunity institution.

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Business Highlights

by Robert C. Dauffenbach

T HIS ISSUE OF THE *OKLAHOMA BUSINESS BULLETIN* marks the rebirth of the series. Although we have continued to update economic data we maintain on the ORIGINS.OU.EDU website, we have held publication of the *Bulletin* while we struggled with the implications of vast changes in federal data systems. Two of our principal products suffered greatly from these changes. Many of the national data series we had identified as important for our Price College Indicators and General Business Index statistical products were suddenly not available. The source of our difficulties lay in the change in industrial classification to the North American Industrial Classification System (NAICS) from the Standard Industrial Classification (SIC) system, resulting in the loss of several variables that we had identified as important to both products. Many new variables were offered in their place, but these needed to be tested for their significance. We have only recently successfully revamped these two statistical products.

The Price College Indicators are a series of leading economic indicators that we have compiled for the US, Oklahoma, Oklahoma City, and Tulsa regions. We have also made some theoretical advances in how variables are aggregated to form leading indicators. The General Business Index has undergone a similar transformation owing to the change in federal data systems. The GBI is similar in intent to the Price College Indicators with emphasis on short-term or contemporaneous indicators of economic performance. We are pleased to have both data systems fully operational once again. In this issue we not only will offer thoughts on the direction of the US and Oklahoma economies, as is typical,

but also to reintroduce the Price College Indicators and the General Business Index products.

This article will be structured in the form of a *mock* interview, that is, my responses to questions I am frequently asked in public presentations. Use of this form should allow readers to cut-to-the-chase of what they find particularly interesting.

How do you see the economy performing in 2005?

When we look back on year 2005, I think we will say that the economy fared pretty well, but not great. Employment growth has been a principal problem that the US and Oklahoma economy has experienced in recent years and I don't see this particular problem being remedied. Since the onslaught of the 2001 recession, it was not until early 2004 that nonfarm employment ceased its decline on a year-over-year percentage basis. The long-term secular trend in employment growth has been about 1.8 percent. Such growth is achievable in 2005, but it may take us until towards the end of the year to register such gains. Indeed, forecasts generated from the Price College Indicators yield year-over-year growth rates slightly below that long-term trend. By the end of 2005, national employment growth should be about 1.5 percent and Oklahoma's growth should match the national rate. The Oklahoma City six-county region could well be a bright spot for the state. The forecast is for an end of year growth rate of 2.8 percent. The state's growth rate is being held down by the Tulsa region, which is expected to be growing only at a 1.1 percent rate by the end of 2005.

These forecasts don't appear to be very optimistic in comparison to the significant growth the national economy has been experiencing in Gross Domestic Product?

Economists, we must remember, are a very dour group. What other profession, I ask, relishes in the years of the Great Depression? In truth, the US economy has been experiencing very sizable gains in real GDP. The US Bureau of Economic Analysis just revised third-quarter real GDP growth to 4.0 percent, for example. No matter how *rosy* present conditions may appear, economists generally tend to strike a note of caution. President Harry S. Truman is reported to have ordered his staff to find him a one-armed economic advisor. He was tired of hearing "on the one-hand *this*, and on the other hand *that*."

Such is the nature of macroeconomic analysis and policy advice. Good news on the employment and income front is likely to generate bad news on inflation. Good news on productivity is likely to be bad news for employment growth. High rates of output growth may make it more difficult to repeat such growth in the future. A number of things seem to be very different about the recovery from the most recent recession, which is now more than three years since its nadir in November, 2001. But, no matter how dire the forecasts, always remember that the US and Oklahoma economies have exhibited substantial resiliency in the face of rather dramatic structural shifts. We seem to be experiencing more than the usual level of dramatic structural shifts lately, however.

Employment growth seems to have been slow to catch-hold for the state and national economies. What explains these difficulties?

As noted, the national economy is clearly growing, in inflation-adjusted GDP terms, at solid and consistent rates. From the third quarter of 2002 through the third quarter of 2004, real GDP has expanded at an average annual growth rate of 3.8 percent. Employment growth is another story, where growth nationally and locally has been quite subdued. Over the same two-year time frame, US employment has expanded, but only at an annualized rate of one-half percent while Oklahoma employment has contracted at an annualized rate of 0.6 percent. Some momentum in employment growth is occurring, but even the most recent statistics show mediocre rates of increase, 1.6 percent for the nation and 1.2 percent for Oklahoma in year-over-year comparisons.

The answer to how real GDP can be expanding at such high rates while employment growth lags lies in productivity, or growth in output per hour. The information age has enabled firms to expand production without having to hire as many additional workers. Think of it this way: If orders for your products expand by five percent and your workers are five percent more productive this year, owing to installation of new processing equipment and computerization, you will not have to hire any additional workers to meet production needs. That is the way it works for the entire economy. As a rule-of-thumb it can be said that the percentage change in output, that is, real GDP, equals the percentage change in employment plus productivity growth. Simply put, productivity growth has been very high; thus, employment gains have been suppressed.

Productivity growth is, of course, not evenly spread across industries. Manufacturing processes are, generally, more susceptible to mechanization and computerization. Between the recessionary years of 1990-91 and 2001, employment in manufacturing nationally reached its peak in March 1998 at 17.6 million workers. This wasn't the all-time peak. That occurred in June 1977 at 19.6 million workers. All this while, manufactured goods rose steadily, with the exception of recessionary years. Thus, productivity has affected manufacturing employment for decades. But, recoveries in employment were generally brisk after a recessionary episode.

Not this time. Since March 1998, jobs in manufacturing have fallen by 3.2 million workers to 14.4 million, or by better than 18 percent. Even since the end of the last recession, November 2001, manufacturing jobs have declined by 1.4 million workers. Clearly something or somethings are different now and those somethings are the rate of productivity growth and the expansion of manufacturing jobs offshore. Manufacturing jobs in Oklahoma have fallen along with the nation. Such jobs

hit their peak in Oklahoma in March 2000 at 178,000. We have since lost about 36,000 jobs, or 20 percent of peak employment. Like the nation, there has been no significant recovery off of recent lows, but at least the rate of decline has slowed to zero.

That is not all of the *somethings* that are different. In truth, employment growth was disparagingly slow after the end of the 1990-91 recession, but 33 months from the end of that recession, nonagricultural employment was growing at 2.5 percent annualized rates. Thirty-seven months after the end of the 2001 recession, the US employment base is growing only at a 1.6 percent year-over-year rate. Problems in manufacturing employment are part of this story, but cannot explain all of it. Manufacturing was slow to recover from the 1990-91 recession, too. Thus far, what is missing from this recovery are the 2.5 – 3.0 percent annualized growth rates that have historically been the experience after recessions. During the past 30 years, employment in the US has experienced a secular trend in employment growth of about 1.8 percent. Oklahoma's comparative rate is about 1.9 percent. But, to achieve these rates requires 2.5 – 3.0 or higher growth rates to compensate for recessionary years. It seems, then, that the economy, both nationally and locally, has entered a period of subdued secular-trend growth.

What else do you find particularly troubling, or encouraging, about the prospects for the US economy?

The current state of the national economy presents several of these *on the one hand this, on the other, that* examples. With mortgage rates continuing to be low, households have improved their balance sheets by refinancing, and pocketed some equity while they were at it to support high levels of consumption. The bad news is that most of these opportunities have now been exercised, and households have, in the process, greatly extended their debt burdens. Consumer installment credit has expanded by over $1.2 trillion since the early 1990s, from the $800 billion to over $2.0 trillion. Housing prices are expanding briskly in many locales, the good news. The bad, many families are being priced

out of the market and there is growing talk of a housing bubble in certain regions.

Briskly growing real GDP is certainly good news. This good news is tainted by the nearly one-half trillion dollar federal deficit, large international trade imbalances, and high rates of money supply growth that portend an increase in inflationary pressures. We have been increasingly relying on foreigners for our supply of savings in this country. While they have been willing to exchange their goods for our paper, extending credit to us at a rate better than $1.5 billion per day, their willingness to do so in the future is increasingly in question.

A veritable orgy of spending by federal government and households has been going on, and it is depressing that the job market is still relatively subdued in the midst of this continuing party. This orgy of household spending is amply illustrated by the ratio of personal consumption expenditures to GDP. In 1967, this ratio was about 63 percent. In 2003, the ratio was about 71 percent, an eight percentage point gain. The Fed is signaling that the days of these historically low short-term interest rates are behind us, but has promised to go slow in raising them. Financial markets are clearly beginning to worry that the party may soon come to an end.

The point is, we have purchased an economic recovery, but at what price? A lot of stimulus has been added to the economy, with only meager returns. Politicians, insecure as they are, like to be liked. Indeed, their jobs depend on it. And, there is nothing more that politicians like better than to give tax relief to voters. In response to the high-tech stock market meltdown, the Fed pursued a historically low interest rate course and maintained it, encouraging higher debt loads, which were already high to begin with. The party continues. Let's hope we avoid the hangover.

And, it is likely that the party will continue for at least a while. Most forecasts for US real GDP have it ranging in the high 3.0 percent range for the foreseeable future. Ray C. Fair, Yale University economist, who models the US economy, sees growth eventually declining to the 2.6 percent level in 2006 and beyond, still a healthy pace of real growth. The multitude of problems mentioned

above has been a long time in developing and they will be a long time in correcting. The value of the dollar on international exchange markets has been in the news of late and it is quite likely that this value will continue to slide lower over the course of time. But, even if the dollar is in a long-term bear market, it is quite likely that it will experience periods where the value rises quite dramatically. We may be due for such a period of advance. Ultimately, it may take until late in this decade before the nadir in the value of the dollar is reached.

There are powerful international economic forces in play and will remain in play for some time. Our increasing reliance on imports for our manufactured goods is but one example. Foreign holders of US assets in the form of government and corporate securities do not want to see the value of their huge investments precipitously decline. The pace of change will be likely be moderate, but inexorable. Our living standards will rise, but possibly not at the rate we have enjoyed in the past. America is still the best country in the world and Oklahoma is one of its best kept secrets.

In what industrial sectors has Oklahoma been experiencing growth recently?

As indicated in the table below, from October 2003 to October 2004, Oklahoma nonfarm employment rose by 14,200, or 1.0 percent. Good producing sectors (mining, construction, and manufacturing) grew at 1.4 percent. Service providing industries recorded a growth rate slightly lower than the average. Mining, construction, information, federal and local government employment were outstanding performers during this period at rates of growth frequently exceeding three or more times the average rate of growth for the state as a whole. While the growth in the mining sector was in percentage terms exceptional, it added only 1,900 jobs and stands,

Table I

Oklahoma Industrial Sector Employment
October 2003 and October 2004
(in thousands)

	Oct. 2004	Oct. 2003	Change	%Change
Total Nonfarm Employment	1469.8	1455.6	14.2	1.0%
Goods Producing	237.5	234.2	3.3	1.4%
Service-Providing	1232.3	1221.4	10.9	0.9%
Mining	31.3	29.4	1.9	6.5%
Construction	63.7	62.1	1.6	2.6%
Manufacturing	142.5	142.7	-0.2	-0.1%
Durable Goods	93.6	92.7	0.9	1.0%
Nondurable Goods	48.9	50	-1.1	-2.2%
Wholesale Trade	54.1	54.2	-0.1	-0.2%
Retail Trade	169.2	171.5	-2.3	-1.3%
Transport and Utilities	53.2	52.5	0.7	1.3%
Information	31.7	30.7	1.0	3.3%
Financial Activities	83.9	84.3	-0.4	-0.5%
Professional and Business Services	159.3	157	2.3	1.5%
Educational and Health	178.5	175.8	2.7	1.5%
Leisure and Hospitality	127.2	127.4	-0.2	-0.2%
Other Services	73.7	73.3	0.4	0.5%
Government	301.5	294.7	6.8	2.3%
Federal Government	44.8	43.3	1.5	3.5%
State Government	83.1	83.2	-0.1	-0.1%
Local Government	173.6	168.2	5.4	3.2%

Source: US Bureau of Labor Statistics, calculations by CEMR.

presently, at only about one-fourth of its all-time peak of 118,000 in March, 1982. Nondurable goods and retail trade were the major sectors of job loss during the October to October period.

You seem to place a lot of emphasis on the national economy in discussing the Oklahoma economy. Why is this?

I'm currently working on research that examines the cyclical (deviations from trend) and secular (trend) behavior of employment in Oklahoma in comparison to the nation. Some results from that research are pertinent to this question. From 1939, the first year that nonagricultural employment was tabulated, until 2003, the Oklahoma employment base expanded by 343 percent. The US employment base expanded by 324 percent. In consequence, Oklahoma's market share grew from 1.06 percent of the nation's employment to 1.12 percent. Over this broad span of time, there was only a six one hundredths of a percent gain in Oklahoma's market share.

The transition from the 1.06 to the 1.12 level occurred in the early 1970s. This ratio has been quite stable with the exception of only two periods, the WWII war years and the energy boom of the late 1970s and early 1980s. Employment growth during WWII came somewhat late to Oklahoma. During the energy boom, the ratio rose to 1.36 percent, representing 224,000 more jobs in Oklahoma than would have existed if the ratio had been 1.12 percent, the standard for much of the 1970s and after 1987. The point is what happens in Oklahoma is very dependent upon what happens to the national economy. With the exception of two exceptional time periods, we haven't drifted much off the mark. We depend in Oklahoma on growth impulses from the national economy.

What motivated your research on the Price College Indicators?

Simply put, the failure of the economics profession to predict turning points of the economy is the chief motivating factor for the Price College Indicators. Leading indicators were the early economic crystal balls. Wesley Mitchell and Arthur Burns in

the late 1930s led the quest to find variables that foreshadowed changes in the direction in economic activity. The idea was simple and effective: find a select set of variables that seem to lead changes in direction of the economy; compile these variables into an index; and continuously update the data in search of turning points in the economy. The best hope through such a methodology was to come up with an index that leads the economy by six to nine months. Their work resulted in the Leading Economic Index or LEI. Subsequently, the U.S. Bureau of Economic Analysis assumed the daily details of compiling the index. Today, the Conference Board performs these chores, publishing monthly the state of this closely followed index.

A second strain of crystal-ball gazing was made possible by a confluence of several factors: advances in understanding of the interrelations between economic aggregates, in data availability, in statistical analysis, in model building techniques and in computer technology. Lawrence R. Klein, recipient of the Nobel Prize in Economics in 1980 "for the creation of econometric models and the application to the analysis of economic fluctuations and economic policies," was the chief proponent.

A spate of large scale, multi-sector, simultaneous equation models of the economy were built with great promise and fanfare. Corporate entities emerged promoting their econometric wares, analyses and forecasts. Examples included Wharton Econometrics, Data Resources Inc. (DRI), and Chase Econometrics. But, ultimately, these models were oversold to the business community as ability to forecast the economy through such models proved elusive. Recessions and periods of rapid economic growth largely remain a surprise to these models. Only one of these firms, a mere shell of its formal self, is in business today, DRI, a division of Global Insight.

In a very real sense, then, we have come full circle, back to the original intent of Mitchell and Burns to identify leading indicators. But, much has changed since their day: statistical theory, data availability, and computational power. These changes have not been fully exploited. As mentioned, the basic tenets of their original work remain with us today in the form of the Leading Economic Indicators. Yet, statistical tests conducted at CEMR

show that the LEI series is simply too closely related to the contemporaneous state of the national economy, and this series, thereby, fails to provide much information about where the economy is heading. It leads, but not by much.

What are the Price College Indicators trying to foreshadow?

The indicators foreshadow the contemporaneous direction of the economy, using the growth rate in nonagricultural employment to represent that contemporaneous state. Employment changes, reported on the first Friday of every month, are carefully monitored by financial markets. Other variables could conceivably have been used to represent the contemporaneous status of the economy, but frequently such measures as personal income and GDP growth, when reported, are yesterday's news. Use of employment has the advantage in the frequency that it is reported.

How many variables were examined in deriving the indicators and what methodology was utilized to find these variables?

Over 1200 variables were processed using time-series econometric techniques. The principal tool was regression analysis, utilizing the technique of distributed lags to find those variables which have lasting influence on employment growth rates. For a variable to be classified as a leading indicator, it must have a long tail of influence on the contemporaneous state of the economy. That is, the current state of the economy, as measured by nonagricultural employment, is influenced not only by the value of the leading indicator in the current month, but the month prior to the current month, and, indeed, months in the fairly distant past. Up to 18 months of lagging influence are investigated in this research.

What types of variables tend to show intermediate and longer-term impacts on employment changes?

The intermediate term indicator variables consist of detailed industry employment variables, a number of residential construction variables, several indus-

trial production indices, various labor market variables, Institute for Supply Management (ISM) survey variables, a number of residential construction variables such as housing starts, and a few capacity utilization variables.

What is interesting is the variables that didn't show up as useful leading indicators. A large number of financial variables were analyzed, including the real money supply, interest rate differentials, and stock market prices. These did not prove to be valuable in predicting employment growth rates. This does not mean that key policy variables such as interest rates are unimportant. The money supply, interest rates, and wealth effects such as stock market valuations influence housing variables, for example, the latter which appears to have a lasting impact on employment changes.

Why should I be interested in the Price College Indicators when the Leading Economic Indicators, maintained by the Conference Board, is available?

The LEI is a useful series and should be followed by decision makers. It contains only eleven variables, however. Many of the variables included in the series have been present for a long time, some even dating back to the earliest days of such research. A few of the variables included in the LEI didn't "make the cut" for inclusion in the Price College Indicators. The latter also include a larger number of variables, giving rise to a "portfolio" or "large numbers" effect.

How does the General Business Index series differ from the Price College Indicators?

To construct the Price College Indicators we were looking for variables that have, shall we say, lingering effects on the growth rate of employment. By lingering effects we mean a long tail of influence. To be so classified as a leading indicator, the most recent observation on a variable not only must have a direct influence on the rate of change in employment, but the previous month and months previous to that month must also have an influence. It is not uncommon for leading indicator variables to have an influence on the current rate of employment change 12 to 18 months in the past. Contemporane-

ous variables have a quick, hard-hitting, but not lasting influence on the state of the economy. The General Business Index deals with such variables.

We often hear of secular trends and cyclical variation in growth? What is meant by these terms and how do they relate to the Price College Indicators and the GBI?

There are two basic components to employment growth: the secular trend and the cyclical component. Also commonly mentioned are seasonal and random variations. The data are adjusted for seasonal variation prior to processing and the statistical techniques handle the random variation. The secular trend is somewhat of a given. It is the average rate of change in employment over the long haul, abstracting from boom and bust periods. Both data products are designed to the cyclical employment growth component for the region in question. The GBI, for example, is based on 25 variables that consistently predict cyclical variation. The level of the index and its recent direction are important indicators of the state of the economy. In particular, rates of change in the GBI for the state or a region in comparison with rates of change in previous periods reflect on the direction of the economy. For example, if the rate of change from a previous period was a large negative value, say -4.0 percent and the current rate of change is, say, +2.0 percent, we could readily say that economic conditions were improving. If the current reading was -2.0 percent, we would say that economic conditions are still worsening, but that the pace of that worsening was at a lesser rate.

Information on the magnitude of the cyclical component can be identified simply by comparing the GBI value directly to the index of employment. If the GBI value matches the employment index, we say that the cyclical component is zero and employment should grow at the secular rate. If the GBI is greater than the employment index, the cyclical component is positive, and vice versa if the GBI is less than the employment index. Even if the cyclical component measures at the zero level, improvements in employment are to be expected because the secular trend is positive at about the 1.9 percent rate

of growth. We have then two central measures of the status of the economy through use of the GBI: the status of the *cyclical component* through comparison of the GBI with the employment index and the *general direction* of the economy, obtained by review of rates of change in the index.

What are the most recent results from the GBI analysis saying?

The evidence from the GBI has for some time been that, along with the nation, the Oklahoma economy is definitely on the rebound. Recent results underscore those findings. The State GBI registered 132.8 in December 2004, a 2.2 percent gain from a year ago. Last year at this time the index was 130.0, a negative 0.2 percent change from the December 2002 GBI. Thus, the trend in employment growth has definitely become more positive recently. However, the level of the GBI for the state still lags the employment index of 133.3. Thus, the differential between the GBI and the state employment index is -0.5, indicative that the State of Oklahoma is still experiencing a slightly negative cyclical component.

For the Oklahoma City metro area, the situation is quite improved relative to the State. The GBI for OKC is 140.2 in December, a 4.6 percent gain over the previous year. In December 2003, the index was 134.0, a 0.2 percent decline from the previous year. Thus, the GBI for Oklahoma City has experienced a large percentage gain. Comparing the present level of the GBI for Oklahoma City with the employment index for Oklahoma City, we see quite favorable results. The employment index for OKC was 137.9, resulting in a +2.3 differential between the GBI and the employment index for Oklahoma City. Thus, the OKC metro area is experiencing a quite positive cyclical component at present, for which we can hope that sizable employment gains will soon begin to follow.

For the Tulsa region, the comparisons are not as favorable. While the GBI has expanded by 3.0 percent to 130.1 in the December 2003 to December 2004 period, a much more favorable result in comparison to the 2.0 percent decline the previous

year, the cyclical component still remains negative. This is shown by subtracting the employment index for Tulsa, at 131.2 from the GBI. This difference of -1.1 indicates the presence of a still negative cyclical component for the Tulsa region. Yet, the value of this negative component is much improved over readings as recently as December 2003, when the differential was -3.9. Thus, the cyclical component, while still negative, is much improved for the Tulsa region.

The table below provides some comparison data on GBI trends.

	State	% Change
2002:12:00	130.2	-3.20%
2003:12:00	130.0	-0.20%
2004:12:00	132.8	2.20%
	OKC	% Change
2002:12:00	133.7	-2.30%
2003:12:00	134.0	0.20%
2004:12:00	140.2	4.60%
	Tulsa	% Change
2002:12:00	128.9	-4.90%
2003:12:00	126.3	-2.00%
2004:12:00	130.1	3.00%

What "cautions" are to be noted in using the Price College Indicators and GBI series?

The University of Oklahoma and the Price College of Business provides the indicators as a public service and assumes no liability, expressed or implied, in their use. Past predictive qualities of the indicators are not a guarantee of their future success. The economy is dynamic, changing daily, and the variables that were important in the past may not be important in the future.

What are the plans for release of the Price College Indicators and the GBI in the future?

The developmental work on the indicators has been accomplished. We plan to release the indicators and the resulting forecasts no less than quarterly to the *Journal Record* and other media outlets. A *Daily Oklahoman* publication, *Marketing News*, publishes GBI information six times a year. If the tenor of the times dictates, releases will be monthly. We invite comments. I can be reached at 405-325-2934 or at e-mail address rdauffen@ou.edu.

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How Public Policies Affect Work and Marriage Incentives

Zohre Salehezadeh and Kenneth Kickham

T HIS ARTICLE INVESTIGATES WORK INCENTIVES FOR various family structures in Oklahoma based on tax and public assistance policies in effect as of March 2004. We use a quantitative spreadsheet model of the interactions among several benefit programs and the tax system to analyze their cumulative effect on household resources. Specifically, we calculate household resources based on family structure, program participation, labor force participation, and wage rate. We find that there are cliffs along the way to increasing human capital and becoming self-sufficient, implying that household resources can shrink as wage rates increase, creating disincentives to work.

Program Interaction

Most state welfare agencies are looking for ways to better integrate their human services programs. Recent discussion of "super waivers" suggests the potential for each state to weave programs into an integrated system and rationalize their cumulative effects.[1] As a result of the block-grant approach to human services now under consideration, states could be enabled to better address several problems, including the "stovepipe" approach, also known as the "silo" phenomenon. The silo phenomenon refers to the fact that different public assistance programs have evolved independent of each other, and are therefore not coordinated as a rational system.[2] In order to evaluate the success of program integration, we should start by analyzing the cumulative effects of current tax and welfare programs on low-income families' resources, and then think about how these programs can be manipulated in order to serve the clients better. Considering two of the stated purposes of welfare reform—to promote work and marriage—it becomes important to understand how families are affected by public policies that provide for financial rewards and penalties based on marital status.

The purpose of this analysis is to calculate the cumulative effects of taxes, public assistance programs, and marital status on total resources. The next section of this paper briefly outlines a methodology and a model that allows us to measure resource enhancements and/or penalties implied by state and federal tax and transfer policy interactions. Then we explore the implications for work and marriage in a series of hypothetical scenarios. We disentangle the effects of individual programs and policies, and conclude by suggesting some issues for policymakers to keep in mind as they contemplate the brave new world of super-waivers.

Methodology, Data and the Model

In this study we use a model[3] developed by Hepner,[4] which was used to analyze the interactions of various benefit programs and tax policies (as of July 1999) and their effects on marginal tax rates and family resources in Oklahoma. We have updated, expanded, and revised the model to reflect the numerous policy changes that have taken place since 1999. Benefit programs and tax policies that define program eligibility criteria and determine benefit amounts are formulated in a number of Excel sheets. The formulas are constructed and linked so as to model the interactions among the programs and tax policies, enabling the analyst to calculate the

effects of changes in family structure, program participation, and hourly wage on a given family's resources.[5]

There is a graphic interface built into this model that allows its user to enter information describing a specific family situation and select program participation combinations. Formulas then calculate the amount of taxes, credits, and transfer program benefits. When combined with wages, the result represents total family resources for the month.[6] Finally, this outcome is graphed onto various sheets that show monthly resources of the hypothetical family. The graphing macros are flexible enough to allow visual comparisons of resources of this family with other possible family structures at varying wage rates or, alternatively, increasing hours of work.

The interface lets the user enter the wage rate and hours of work for the mother and adult male, family structure, program participation, and tax options through different screens, each with a specific tab. By entering the appropriate information on the interface screens, the user constructs a hypothetical household and each of its members. The following list of information elements describes the parameters the user can set for each run.

- *General information*: The user selects county of residence from a drop down list, number of bedrooms in the residence, amount of unearned income and unemployment insurance the mother receives.

- *Mother and/or father*: The user selects the marital status (i.e. single, married, or cohabitation, and if cohabitation is reported or concealed), and if the father is the biological father of the children. This is also where the user specifies hours of work per week and hourly wage rate, as well as age and disability status.

- *Children*: The model allows for the family to have up to four children. For each child selected, the user enters gender, age, whether or not the child is in childcare, and disability status.

- *Public assistance programs and taxes*: The user also may select any of the seven welfare programs and the four tax credits the family members might receive if eligible.[7] The seven

assistance programs are: Temporary Assistance for Needy Families (TANF); food stamp; Medicaid; childcare subsidy; Women, Infants, and Children (WIC); housing subsidy and Supplemental Security Income (SSI, which also includes Oklahoma's supplemental payment—SSP). The model assumes that the family meets asset eligibility criteria and non-financial criteria,[8] such as work requirements and immigration status requirements. Finally, the user may select to whether or not the family receives child support.[9]

- *Taxes and tax credits*: The model calculates payroll taxes for social security and Medicare, and federal and state income taxes. The tax credits included in the model are both federal and state Earned Income Tax Credit (EITC), Child and Dependent Care Tax Credit (CCTC), federal Child Tax Credit (CTC), Additional Child Tax Credit (ACTC), and the state sales tax credit. Married couples are assumed to file jointly, while a single or cohabitant mother is assumed to file as head of household. Unmarried fathers are assigned single filing status.

After the selections are made, the model makes all the calculations instantly. The selections (input values) and the corresponding outcomes are then displayed on a worksheet. Exhibit 1 shows how the input values are displayed. Outcomes are shown both graphically (Exhibit 2) and numerically (Exhibit 3).

Exhibit 1 indicates that we chose the information for a single mother with a four-year old son. She works 40 hours per week, at $5.15 per hour, and receives child support from the father of the child. The father also works 40 hours per week and earns $5.15 per hour. We would like the mother to receive all tax credits and benefit programs for which she is eligible. The shaded portion of Exhibit 1 shows a "y" corresponding to each program and tax benefit, indicating we have "turned on" each of these options for this hypothetical household.[10] Below the shaded area, information on the age, sex, childcare and disability status of each family member is shown. We can see that there is one child, a 4-year old boy in childcare, with no disabilities. Please note that

even though the SSI and SSP benefits are selected, no SSI/SSP payment will be ascribed to this family (i.e., no family member is disabled). The next exhibit presents this family's monthly total resources.

In exhibit 1, the "Mother's Earned Income" line shows the monthly wage earned by the mother with no government intervention (i.e., no tax effects and no benefit program effects). Note that even though we entered only one hourly wage rate for the mother in the information sheet, the model allows us to see what happens as her human capital increases. Specifically, the graph shows how resources change as the mother's hourly wage rate increases. The line starts off at zero dollars per hour where the mother has no job and receives no wage—NW on the horizontal axis. The second point on this line represents the situation where she works 20 hours per week, at minimum wage—MW (20) on the graph—for which she receives $446 per month as her income. The rest of the line shows the mother's monthly wage at various hourly wage rates, assuming she is working 40 hours per week. As expected, the line is positively sloped indicating that as this mother's human capital increases, her monthly earnings increase accordingly.

The "Income After Taxes, No Government Benefits" line demonstrates how the tax system treats the family's income (i.e., mother's wages plus child support). The model includes earned and unearned income, and child support, in calculating payroll taxes,[11] federal and state income taxes, the federal and state child care tax credit, the federal child tax credit and additional child tax credit, federal and state EITC, and state sales tax credit. The thick line, "Net Income—Including Government Benefits And Taxes" shows the cumulative effects of both the tax system and benefit programs. Because it includes the taxes and benefit programs mentioned above along with the family's income, this is the most realistic portrayal of the family's total resources.

Exhibit 1

Work Sheet Showing the Selections

Marital Status:	Single		Mother's Hourly Wage		$5.15	Other Income (Monthly Amount):	
County	Oklahoma		Adult Male's Hourly Wage		$5.15	Unearned Income	$0
No. of Bedrooms	2		Mother Hours Worked Per Week		40	Unemployment Benefits	$0
Child Sup., Biol. Father's Wage	$5.15		Adult Male Hours Worked Per Week		40		
Is the Male the Biol. Father?	y						
Benefits and Credits Applied for:							
TANF	y		Housing Subsidy		y	EITC (Fed & State) & State Sales Tax Credit	y
Food Stamps	y		Supplemental Security Income (SSI)		y	Childcare Tax Credit	y
Medicaid	y		Women, Infants, and Children (WIC)		y	Child Tax Credit	y
Childcare Subsidy	y		Child Support		y	ACTC	y

Family's Other Information:							
Member	Sex	Age	Childcare	Disability			
Mother	f	32		n			
Adult Male	m	40		n			
Child 1	m	4	y	n			
Child 2	0	0	n	n			
Child 3	0	0	n	n			
Child 4	0	0	n	n			

Exhibit 2:

Total Monthly Resources for A Single Mother with One Child
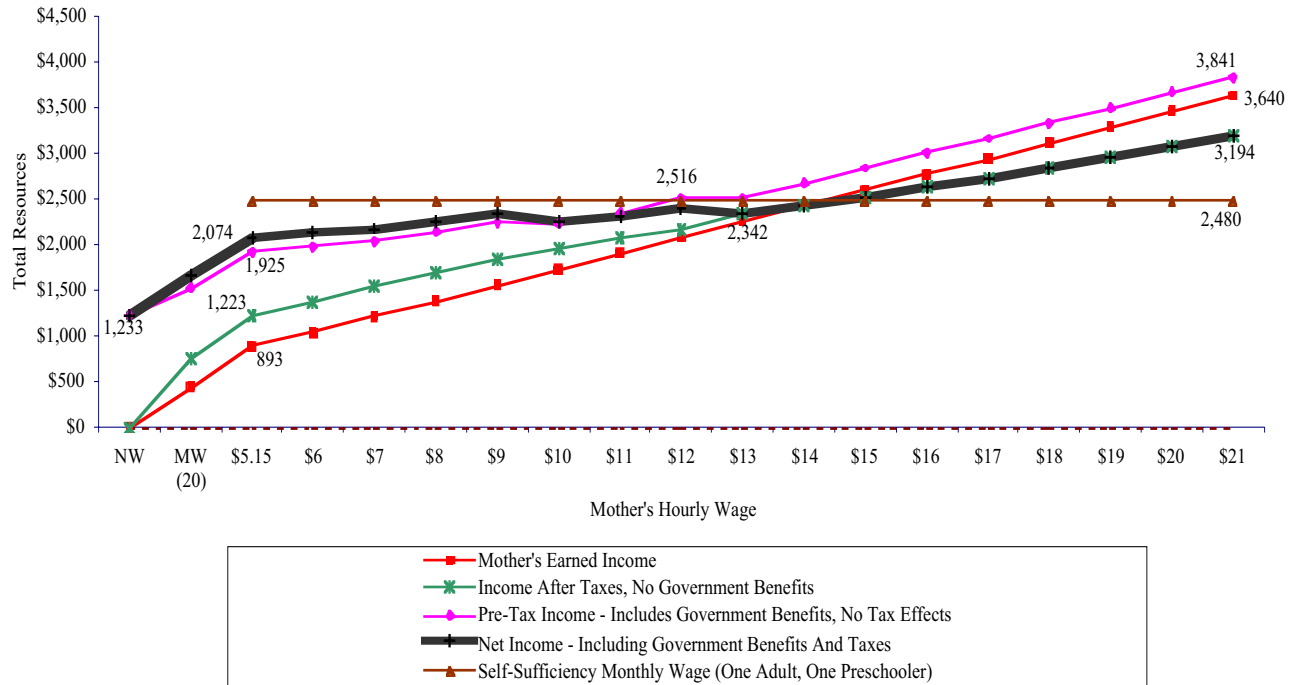
Finally, the flat line with triangular markers graphs the "Self-Sufficiency Monthly Wage" for this specific family. This line shows the monthly income this family needs to be self-sufficient.[12] The Self-Sufficiency Wage has been calculated as the amount the family needs to get by without receiving any outside assistance, assuming that the adults in the family work full-time. In Oklahoma, the amount of the Self-Sufficiency Wage is calculated for each county and for numerous family structures. We again select Oklahoma County and include the corresponding monthly amount of Self-Sufficiency Wage for each family structure on these graphs as a baseline against which to compare other amounts. For a single mother and a preschooler, this amount is $2,480 per month. The model also generates an output table that gives the numerical values portrayed in the graph. Exhibit 3 illustrates a portion of this output.[13]

Note that in Exhibit 3, positive numbers are receipts and numbers in parentheses are payments. The last row, childcare payment, is added to the

table to show the inverse relationship between childcare co-payment and the childcare subsidy. If this mother has no job, she is not eligible to receive any childcare subsidy; assuming she is staying home, childcare cost is also zero. With a 20-hour job at minimum wage, her childcare cost is $206 per month, which is totally covered by the childcare subsidy. As her wage rate increases from $5.15 to $12 per hour assuming she works full time, the amount of subsidy falls from $376 to $232 per month and her copay amount increases from $35 to $179 per month. The next one-dollar increase in her wage rate will result in total loss of childcare subsidy and an increase of childcare cost from $179 to $411 per month, which is the full cost of childcare for a toddler in Oklahoma County.

Incentives for Different Family Types

Recall from Exhibit 2 that the left side of the graph shows the point where we assume the mother does not have a job and receives no wage (point NW

Exhibit 3

Itemized Monthly Resources for the Single Mother Scenario

Mother's Hourly Wage	NW	MW-PT	$5.15	$6	$7	$8	$9
Earned Income	0	446	893	1,040	1,213	1,387	1,560
Unearned Income	0	0	0	0	0	0	0
Child Support	0	171	181	187	200	206	210
SSI	0	0	0	0	0	0	0
Unemployment Benefit	0	0	0	0	0	0	0
TANF	225	0	0	0	0	0	0
Food Stamps	259	195	83	48	0	0	0
Housing Subsidy	506	388	261	221	176	131	84
Medicaid	187	73	73	73	73	73	73
WIC	57	57	57	57	57	57	57
Childcare Subsidy	0	206	376	357	321	291	272
Monthly Federal Income Tax	0	0	2	17	34	51	69
Monthly State Income tax	0	(1)	(7)	(10)	(13)	(17)	(23)
Monthly FICA & MQFE Taxes	0	(34)	(68)	(80)	(93)	(106)	(119)
EITC (Federal and State) & State Sales Tax Credit	0	167	223	223	211	182	153
Total Resources	**1,233**	**1,667**	**2,074**	**2,133**	**2,180**	**2,256**	**2,336**
Child Care Payment	0	0	(35)	(54)	(90)	(120)	(139)

Mother's Hourly Wage	$10	$11	$12	$13	$14	$15	$16
Earned Income	1,733	1,907	2,080	2,253	2,427	2,600	2,773
Unearned Income	0	0	0	0	0	0	0
Child Support	208	206	204	263	254	244	236
SSI	0	0	0	0	0	0	0
Unemployment Benefit	0	0	0	0	0	0	0
TANF	0	0	0	0	0	0	0
Food Stamps	0	0	0	0	0	0	0
Housing Subsidy	37	0	0	0	0	0	0
Medicaid	0	0	0	0	0	0	0
WIC	0	0	0	0	0	0	0
Childcare Subsidy	257	241	232	0	0	0	0
Monthly Federal Income Tax	68	55	30	21	(8)	(37)	(65)
Monthly State Income tax	(32)	(42)	(52)	(61)	(74)	(86)	(99)
Monthly FICA & MQFE Taxes	(133)	(146)	(159)	(172)	(186)	(199)	(212)
EITC (Federal and State) & State Sales Tax Credit	124	95	66	37	8	0	0
Total Resources	**2,263**	**2,316**	**2,401**	**2,342**	**2,421**	**2,522**	**2,634**
Child Care Payment	(154)	(170)	(179)	(411)	(411)	(411)	(411)

on the graph). Under this condition, the family's total resources are $1,233 per month, which includes $225 from TANF, $259 food stamps, $506 housing subsidy, $187 Medicaid and $57 of WIC (see Exhibit 3). In this situation, she does not receive any child support. The reason is that according to Oklahoma's TANF policy, if a person receives TANF, child support is collected by the Department of Human Services (DHS) as long as the amount of child support is smaller than the TANF amount. Since the father works 40 hours per week at the hourly wage rate of $5.15, he pays $127 child support, which is less than the amount of TANF ($225) the mother is eligible to receive. Therefore, DHS retains the $127. If she works 20 hours per week at the minimum wage rate, she earns $446 per month from work and receives $171 child support, along with $206 childcare subsidy, which makes her ineligible to receive TANF.

As this single mother's wage rate increases from $5.15 to $9 per hour (top row in Exhibit 3) given that she works full-time, her monthly earnings increase by $667 ($1,560 – $893), but the total resources increase by just $262 (from $2,074 to

$2,336), representing only about 39 cents on the dollar. We should also bear in mind that as total resources increase, household expenses increase. For example, as the family's resources increase from $1,667 (see the "Total Resources" row corresponding to the MW-PT column in Exhibit 3) to $2,342 (at $13 per hour), the childcare expenses go up from zero to $411, while housing costs[14] increase from $173 to $561, leaving the family with $1,370 ($2,342 - $411 - $561) to spend on other basic needs (which includes the full cost of food, health care, etc.). This is $124 less than the $1,494 ($1,667 – $173) the family had at minimum wage and 20 hours per week. In other words, the mother doubles her work hours and more than doubles her hourly wage, yet is worse off financially. As her wage rate increases from $9 to $10 per hour, the increased tax payments and lost benefits result in her resources declining from $2,336 to $2,263 per month. The same situation (a decrease in resources) happens when she moves from $12 to $13 per hour. Decreased resources and increased expenses are disincentives to work and are expected to discourage this mother from increasing human capital and/or working more hours.

To see what happens to the family's total resources if the parents live together, we select "married" or "cohabit" on the graphic interface, and de-select "child support." The output consists of various tables and graphs that show the components of the family's monthly total resources. One graph that we present here illustrates how family structure affects total family resources. Recall the thick line from Exhibit 2—"Net Income - Including Government Benefits And Taxes." This line shows the interactive effects of all programs and taxes. Exhibit 4 plots this line for three family structure types: married, reported cohabitation and unreported cohabitation (each with one child). The purpose of this comparison is to show how the type of family structure affects total resources.

Note that family resources are highest under the condition of unreported cohabitation, and lowest for the married couple. We discuss this in greater depth using two more scenarios. Specifically, we analyze the interactions of tax system and welfare programs

Exhibit 4

Comparing Married, Reported and Unreported Cohabitation with One Child
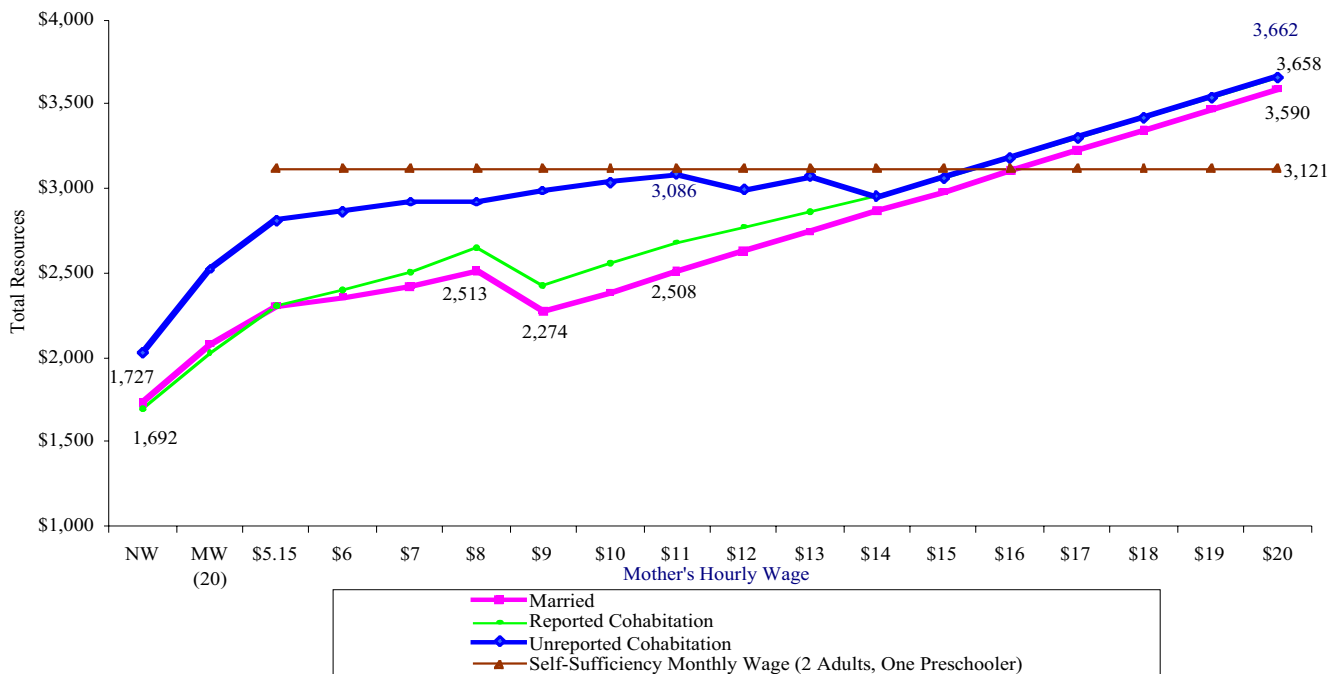
and their combined effects on the family's total resources as the family's wage income increases through either increased wage rate or increased hours of work. This will shed light on the nature and magnitude of work incentives and disincentives in public policies.

In the first scenario we select a family with a mother and father, both working 40 hours per week, with two children age one and four. In this scenario we hold the mother's hours of work constant at 40 per week and let her hourly wage increase.

In the second scenario, we examine the same family situation, except that we hold her wage rate at $5.15 per hour and increase the number of hours per week she works. In both scenarios we initially assume the mother is a single parent, receiving child support from the father (who works full time at

$5.15 per hour). Then, we compare total resources assuming the parents live together.[15] There are three possibilities under this state of affairs—the couple takes the marriage vow, or cohabits and they report their cohabitation, or they conceal their cohabitation.

We begin with Exhibit 5, which portrays a single mother and her two children's total resources as the mother's hourly wage increases, while the father's wage is kept constant at $5.15 per hour. As the graph shows, if the mother does not have a wage (point NW on the horizontal axis) the benefit programs assist her family as much as $1,587 per month (the thick line). Note that at this point she does not receive the child support paid by the father, since DHS keeps the child support and pays TANF to the mother as long as the child support is less than TANF.

Exhibit 5

Total Monthly Resources By Hourly Wage for A Single Mother with Two Children
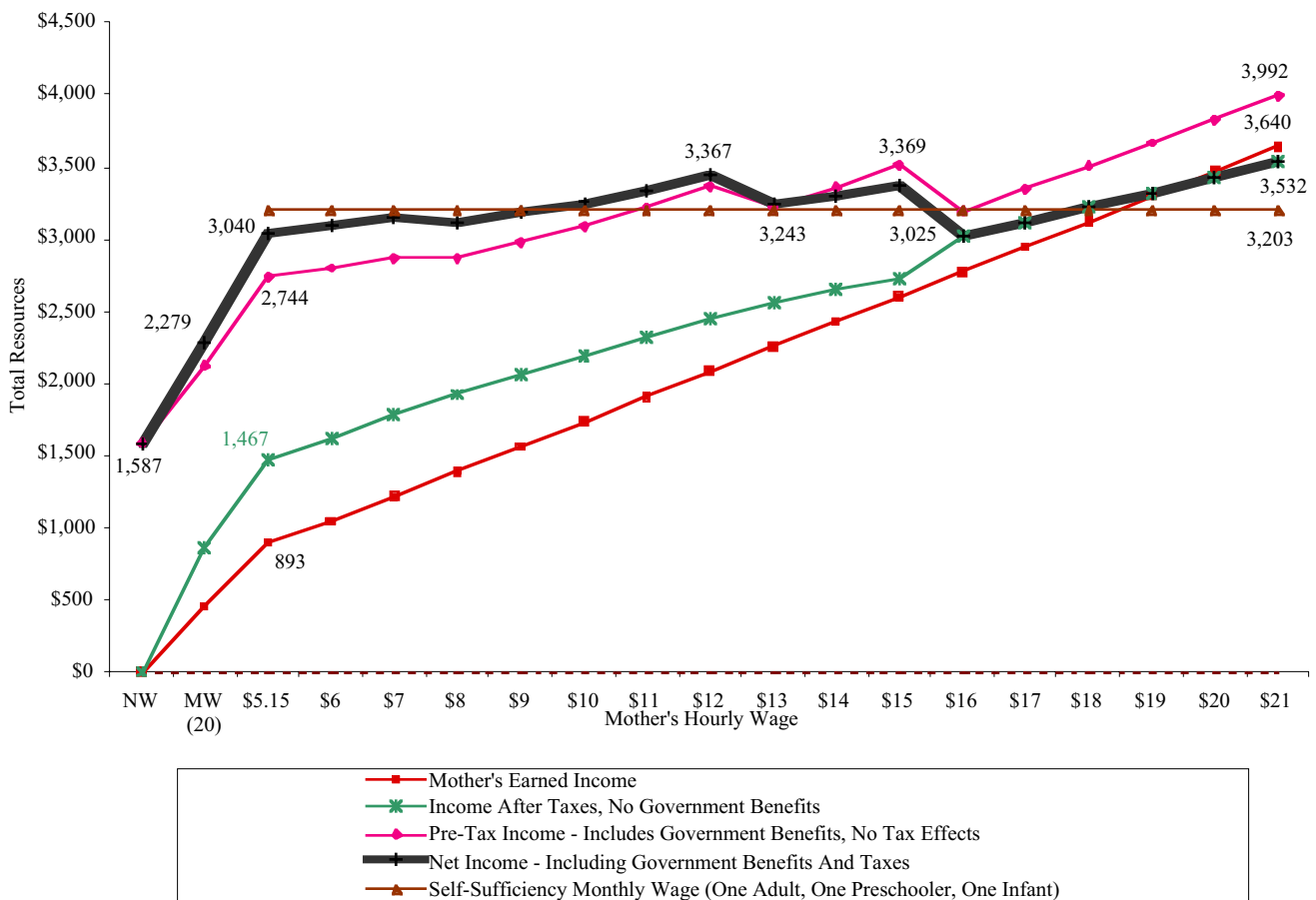
Working 20 hours a week at minimum wage—point MW (20) on the graph—sharply increases her resources to $2,279 per month (about 44 percent increase). She is no longer eligible to receive TANF, but receives $250 of child support and $446 from her job. She also receives an equivalent of $1,419 from benefit programs such as housing, food stamps and Medicaid.[16] Increasing her work hours to 40 per week increases the family's resources further to $3,040 per month. The slope of this segment of the total resources line indicates that there is a substantial incentive for this mother to find a full-time job even if it only pays $5.15 per hour.

After that point the total resources line stays almost flat up to $15 per hour (increasing from the monthly amount of $3,040 at minimum wage to $3,369 at $15 per hour) and then declines significantly to $3,025 at $16 per hour. This is true in spite of the fact that her monthly pre-taxed earnings

from work have increased from $893 to $2,773 (more than tripled). This is commonly referred to as the cliff effect. The reason is that for every extra dollar she earns from work, more than a dollar is taken away from her. Decreased benefits along with the increased taxes leave her family with total resources below what they had at minimum wage. The EITC, for example, has declined from $368 per month at $5.15 per hour to $8 per month at $16 per hour. The return to human capital investment is negative. If this mother, for example, went to college, got her degree, and moved from the minimum wage job to a job paying $16 per hour, the interactions of these public policies would affect her family negatively. Her total resources would actually decline. In other words, she is better off holding a minimum wage job and receiving welfare, than going to college (or participating in training programs) and getting a job with hourly pay of $16. As Exhibit 5 shows, from the point where the mother

Exhibit 6

Comparing Married, Reported and Unreported Cohabitation: Two Children
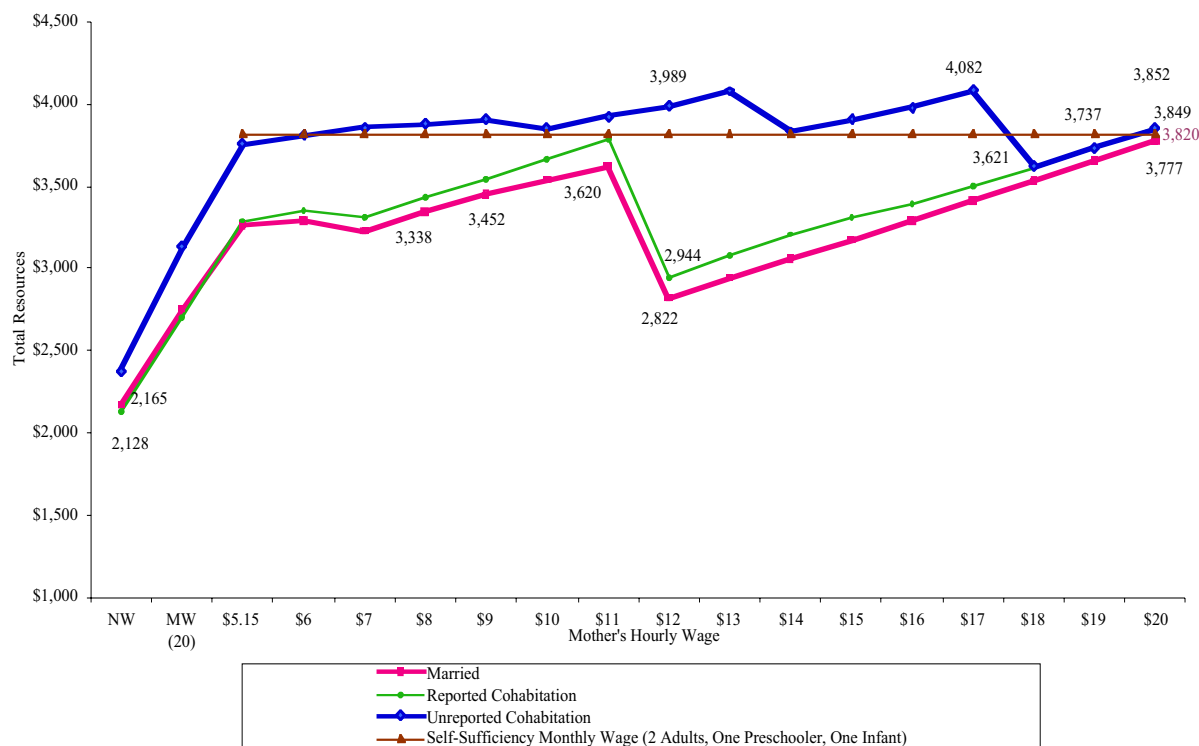
works 40 hours per week at minimum wage the family's total resources fluctuate around the self-sufficiency standard—$3,203 per month—up to the point where she receives $18 per hour.

This situation gets more dramatic if she marries the father of her children. Again we postulate that the father works full-time at minimum wage, and allow the mother's wage rate to increase. In Exhibit 6, we illustrate the combined effect of higher earnings in conjunction with tax and transfer policies, comparing total resources of this family under different assumptions.

First, we call attention to the line representing the couple living together without reporting their cohabitation. The line with diamonds illustrates total resources of this family. Compared to the self-sufficiency amount (for a family consisting of two adults, one preschooler and one infant) this family is surviving financially with resources that exceed the self-sufficiency line (except at the wage rates of $18 and $19 where the family's total resources fall below self-sufficiency level—$3,820 per month—due to the loss of childcare subsidy and increased taxes), given both parents work full-time. There are the same cliff effects, which again imply the negative incentives for investment in human capital, but at higher wage rates than in the single mother case.

On the other hand, if the couple reports their cohabitation, their total resources will decrease all across the wage rate spectrum (up to $18 per hour). Even worse is the case where they take the marriage vow. As Exhibit 6 shows, there is significant incentive for the couple to conceal their cohabitation and negative incentive for them to get married. The married couple's total resources (the line with square markers) will always remain below the self-sufficiency standard up to a wage rate of $20 per hour (for the mother), where their total resources reach $3,777 per month.

Compared to the single mother case, there is a considerable incentive, at least financially, to cohabit with the father of her children and hide the relationship; for this family the shelter cost will not increase (see endnote 15), whereas the total resources increase dramatically. Another benefit is that the cliff effect occurs at a higher wage rate. Looking at Exhibit 5, we find the family falling from the cliff when the

mother's hourly wage rate increases from $15 to $16, while in Exhibit 6 in the case of unreported cohabitation, the cliff occurs when her wage rate increases from $17 to $18 per hour.

The major difference between marriage and cohabitation is the treatment of the tax system. With regard to welfare programs, in Oklahoma, the two cases are dealt with similarly. In fact, both types of families in our example receive the same amount of public assistance at various wage levels. In the tax system, the most severe marriage penalty is the EITC, which differentiates substantially between married and unmarried. By contrast, public assistance programs contain major penalties for married couples relative to non-reporting cohabiters.

The marriage penalty is quite substantial at the $11 to $12 per hour range (see Exhibit 6).[17] Were they not married, and just cohabiting, the couple's monthly resources would be $122 higher (the difference between $2,822 and $2,944). If they did not report their cohabitation, they would gain *an additional* $1,045 ($3,989 – $2,944) in household resources. Of this amount, $1,043 is extra welfare benefits.[18] At this wage rate ($12 per hour) the married and cohabitant mothers would get none. On the tax side, the married woman gets no EITC[19]; while the cohabitant mother would get $164 per month, which is roughly the same as for unreported cohabitation. Cohabitant mothers (in both cases of reported and unreported) would receive a monthly amount of $96 of federal tax credits, and pay less in state taxes than the married couple. The gap between married and unreported cohabitation is $1,167 per month, representing an increase over the married resources of 41 percent.

In the next scenario we hold the mother's wage constant at $5.15 per hour and increase her hours of work per week. Again, we look at work incentive structures in public policy regarding these four types of family arrangements with a mother, a father, and two children age one and four. The father works 40 hours per week for $5.15 per hour. First, we look at a single mother who receives child support from the father (Exhibit 7), and then we compare this case with three other cases—the mother marries the father, they cohabit and report their cohabitation, or they cohabit and conceal it (Exhibit 8).

As Exhibit 7 indicates, total resources of a single mother (with two children) working at minimum wage will reach the self-sufficiency level at 75 hours per week or more.[20] This assumes that she would be able to find up to 35 hours of additional childcare. Despite the fact that this mother works 75 hours per week, she still is eligible to receive a $1,265 package of benefits that includes $725 of childcare subsidy, $364 worth of other benefits and $176 of net tax refund (tax refunds - taxes paid) per month. Without these benefits, she is well below self-sufficiency.

This is the case for many families on welfare. The requirement for receiving welfare is for the mother to work.[21] With not much education and training the family remains heavily dependent on public assistance. As Exhibit 8 shows, the situation is even more striking if the mother marries the father. In this family the father works 40 hours per week. Note that even if the mother works 85 hours per week at minimum wage, they still are well below the self-sufficiency standard *despite receiving $972 of public assistance*.[22] If the couple cohabit and conceal their cohabitation, they are much better off.

Both parents work 40 hours per week at $5.15 per hour and receive $1,780 of welfare[23] and $192 of net taxes, which help them to get close to the self-sufficiency level. We should not forget though that even in this case the parents both work full time and still cannot meet the family's basic needs without government assistance. It seems reasonable to expect that a couple (with two children) working full time should be able to provide for their basic necessities.

Policy Implications

The findings from this analysis suggest several problems that policy makers should keep in mind as they attempt to integrate human services programs. The main problem relates to incentives. The graphs in previous sections indicate that the system of taxes and benefit programs provide strong disincentives to increase one's human capital (i.e., the flattened portion of the net income line in Exhibits 2, 4, 5, and 6). There are also work disincentives (Exhibit 7) and marriage penalties (Exhibits 4, 6, and 8). Another problem is the cliff effect, indicating the loss

Exhibit 7

Total Monthly Resources by Hours of Work for A Single Mother with Two Children

Mother's Hours of Work

- ■ Mother's Earned Income
- ✳ Income After Taxes, No Government Benefits
- ◆ Pre-Tax Income - Includes Gov. Benefits, No Tax Effects
- ✛ Net Income - Including Government Benefits And Taxes
- ▲ Self-Sufficiency Monthly Wage (One Adult, One Preschooler, One Infant)
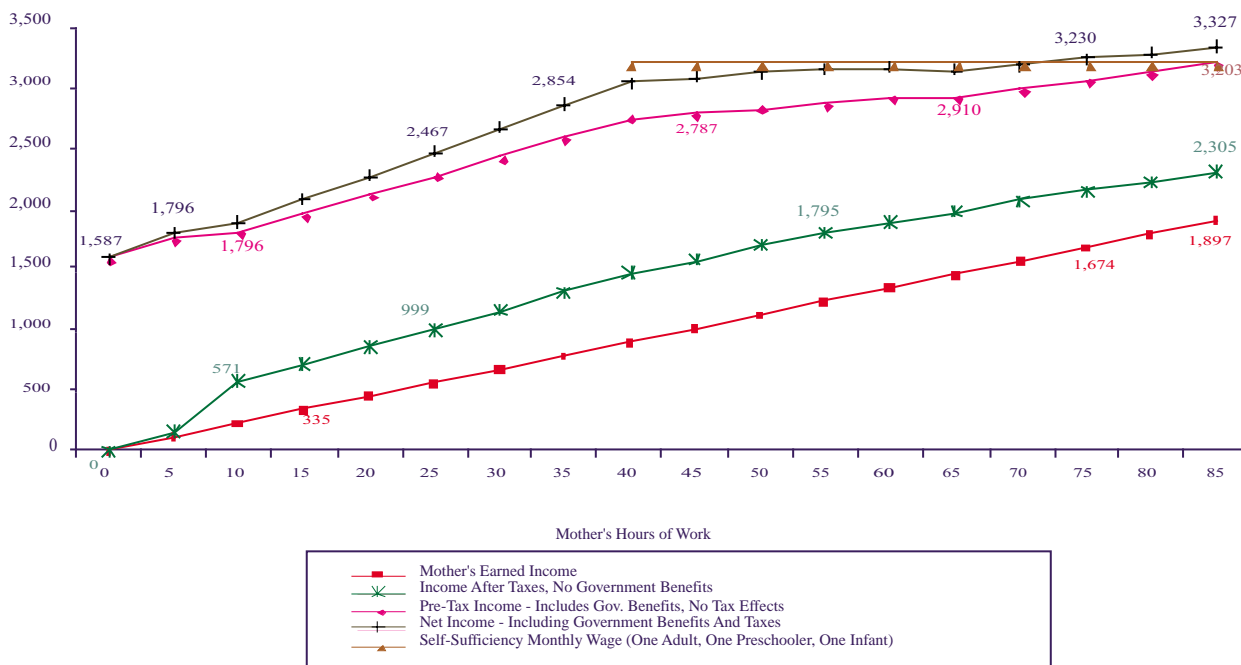
Exhibit 8

**Comparing Married, Reported and Unreported Cohabitation
with Two Children with Increasing Hours of Work**
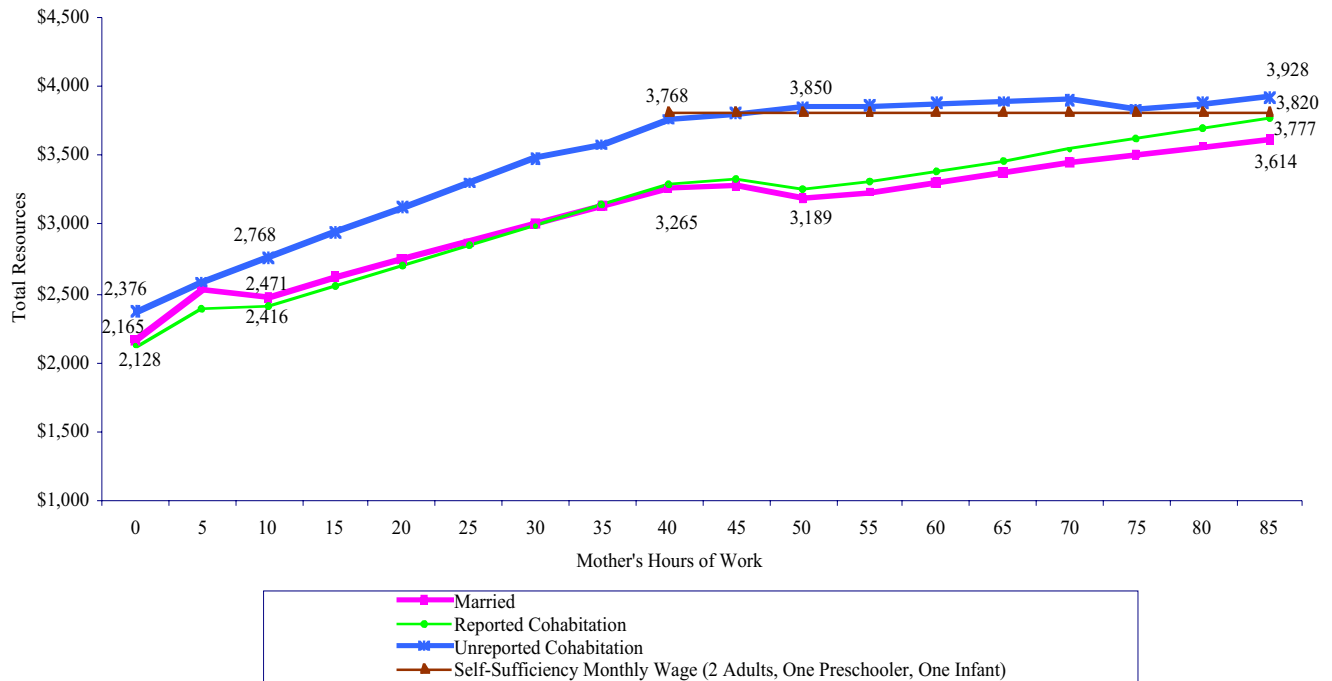
of benefit programs and increased taxes at the same income level. We address these issues in the remaining paragraphs.

While it is true that a primary impetus for program integration is the notion that public benefit programs ought to deliver a consistent message, this consistency is the source of the cliff effect. An alternative approach would be to stagger benefit phase-outs to smooth the cliffs, so that a woman's next dollar per hour raise doesn't leave her far worse off. But this would only extend the flattening effect to higher income levels. The flattening of the total resources line, even as wage per hour increases, and the cliff effect from disappearing tax and transfer benefits, must be addressed in other ways.

Correcting the flattening effect is problematic because of the need for public benefit programs to lift low-wage earners up to self-sufficiency. This problem results from the gap between hourly wages and the amount of money it takes to meet basic needs. A single mother with one child, working full time at minimum wage, nets only about 36 percent

of the cost of her basic needs. With more children the gap widens. This problem will only get worse as childcare and housing costs escalate. It is also important to note that our definition of basic needs does not include savings. Running household deficits of this magnitude month after month, with nothing in reserve, is a truly frightening scenario that is currently addressed with a mix of tax and transfer benefits.

When the minimum wage is kept at an amount that is far below the self-sufficiency level, the role of public assistance is to help make up the difference. In other words, when employers are permitted to pay less than subsistence wages to full-time workers, the taxpayers must pick up the tab. An increase in the minimum wage to the self-sufficiency level would alleviate the tax burden on households. Put simply, for the economy to run smoothly we need healthy workers (i.e. workers whose basic needs are taken care of). Public policy obviously observes this need (see the benefits paid to low-income families on graphs in the previous section). But the dilemma is

how to achieved the goal of self-sufficiency without removing the work incentive. Economic theory tells us that in a free market, factor prices (e.g., labor cost) have a direct effect on the output (commodity) prices. An increase in wage rate, for example, will shift the supply curve in the product market leftward, causing an increase in prices, everything else being equal. Given this theory, we have two options to address the above dilemma: a combination of lower prices and higher taxes—to finance the transfer programs to help the low-wage workers reach self-sufficiency; or, a mix of higher prices (due to higher labor cost) and lower taxes as we require employers to pay, at minimum, the self-sufficiency wage rate.

Currently, the former approach, which could be interpreted as a more "socialist" way of solving this dilemma, is the reality associated with public policies now in effect. The reasonable approach in our opinion is to require the employers to cover the *true* cost of labor (i.e., pay the cost of maintaining the labor—self-sufficiency wages). While some might argue that higher wages would translate to higher prices, this argument fails to consider the fact that the higher prices would be offset by lower taxes due to the reduced need for labor cost subsidies. In other words, a higher minimum wage would merely shift labor costs to wages instead of taxes. This would then allow the household resources to move along an incentive-laden upward sloping line as human capital increases.[24]

The buying power of the minimum wage is declining significantly. Adjusting for inflation, the real value of the minimum wage has declined by thirty percent over the last 25 years, and by about ten percent since 1998. One public policy response has been an increasingly expensive expansion of the EITC. This is not a problem-free approach. The EITC, which is a wage subsidy, addresses the flattening effect only in the phase-in region. The phase-out region exacerbates the work disincentive, while also contributing to the marriage penalty. As a wage subsidy, the EITC partially fills the gap between an employer's labor cost and the cost of an employee's basic needs. Removing the need for labor cost subsidies would remove the need for the EITC, and therefore remove a primary source of work and marriage disincentive for low-income families.

This analysis suggests a catch-22 that must be overcome if the goals of self-sufficiency, increased human capital, and positive work incentives are to be met. Recognition of the fact that "any plan which adds to the earnings of low-income workers dulls the incentive to invest in education and training" is not new.[25] Welfare programs that subsidize low incomes punish work effort and fail to reward increased human capital. On the other hand, we do expect human capital and work effort to be rewarded in the labor market. Ideally, even the minimum hourly wage would rescue full-time workers from the need for government income supports. Unfortunately, labor market participation at minimum wage creates the need, and eligibility, for government income supports, which depress work incentives. Upward adjustment to the minimum wage to keep pace with the cost of maintaining a household may be politically problematic; but the approach merits consideration as policy makers try to solve the catch-22 of the work incentives versus income supports dilemma.

Endnotes

[1]The House bill (H.R. 4) would allow a state to propose a block grant that could include TANF, childcare, food stamps, housing, and other programs. See Title VI, State and Local Flexibility.

[2]Mark Ragan, "Building Better Human Service Systems: Integrating Services for Income Support and Related Programs," Albany, NY: Nelson A. Rockefeller Institute of Government, (2003), p. 9.

[3]The model was originally a project initiated by Alison Fraser, Jauna Head, and Sherri Fair of the Oklahoma Office of State Finance.

[4]Mickey Hepner, "An Analysis of the Work and Family Structure Incentives Generated by Oklahoma's Tax and Transfer System," PhD Dissertation, University of Oklahoma, (2001).

[5]The formulas themselves may also be altered to test the potential effects of proposed changes in policies.

[6]Tax effects are calculated assuming the modeled situation continues throughout an entire tax year. Yearly tax effects are then divided by twelve, making them comparable to the monthly amounts of the other elements in the model.

[7]In this analysis we will assume the families receive all benefits and credits their eligibility would allow; but we acknowledge that some programs have low participation rates. The model allows the user to de-select programs if eligibility is not a reasonable predictor of participation.

[8]See for example,

http://www.policy.okdhs.org/ch50/ for non-financial eligibility criteria for food stamp program.

[9]The model calculates child support based on Oklahoma Statutes, Title 43, Section 119 guidelines.

[10]The model can be set for any county in Oklahoma. In this analysis we use Oklahoma County.

[11]Payroll taxes include Federal Insurance Contributions Act (FICA) and Medicare Qualified Federal Employee (MQFE).

[12]As defined by Diane Pearce and Jennifer Brooks in "The Self-Sufficiency Standard for Oklahoma," Washington, D.C: Wider Opportunities for Women, (2002).

[13]The model calculates total resources for wage rates up to $21 per hour.

[14]According to the 2004 HUD Fair Market Rents, the rent for a 2-bedroom dwelling in Oklahoma County is $561.

[15]We follow the self-sufficiency methodology, assuming that parents always have a separate bedroom from their children and no more than two children share a bedroom. Therefore, in these two scenarios, whether or not the father joins the mother and her two children, the family lives in a 2-bedroom dwelling.

[16]At this point we cannot compare the family's total resources with the self-sufficiency wage, since the latter is calculated based on the assumption that the adult(s) in the family work full-time. The costs of transportation and full-time childcare are included in the total self-sufficiency amount.

[17]This is also the range where the cliff effect appears. For increasing her hourly wage from $11 to $12, this mother costs her family $798 per month ($3,620 – $2,822). The marriage penalty is totally separate from the cliff effect.

[18]This is comprised of childcare subsidy ($709), Medicaid ($146), WIC ($167) and housing subsidies ($21). They also get about $3 more of EITC than the reported cohabitant couple.

[19]At very low wage levels, as a family's income grows, the amount of EITC grows (the phase-in region). In the plateau region the EITC amount stays the same as family income increases. As income growth continues, at some point the EITC declines (phase-out region). A couple working full-time at minimum wage falls in the phase-out region. Therefore, the couple reporting any income over the minimum wage would cause the EITC amount to slide further down along the curve. Cohabitant couples—with common children—have the option to use mother or father's income in claiming the EITC, whereas the married couple, assuming they file jointly, must report the total household income. As soon as the couple work full time, the cohabitant couple will receive higher EITC.

[20]We assume no overtime pay; that is, the person would have multiple employers.

[21]Work requirement varies in different welfare programs. For TANF, for example, at least 30 hours of work per week are required.

[22]At this income level, they are paying net taxes of $149 per month (the difference between $22 EITC received and $171 taxes paid).

[23]This amount consists of $249 of food stamps, $321 housing subsidy, $146 Medicaid, $167 WIC, and $897 of childcare subsidy.

[24]Another way to look at this issue is in terms of commodity markets and equilibrium prices. Welfare programs like TANF and food stamp increase the demand for essential commodities. This shift in the demand curve sustains an artificially high level of prices, benefiting producers and retailers at taxpayer expense.

[25]See Richard Perlman, "A Negative Income Tax Plan for Maintaining Work Incentives," *The Journal of Human Resources* 3:3 (Summer 1968): 289-99.

SELECTED INDICATORS FOR OKLAHOMA

	3rd. Qtr '04	2nd. Qtr '04	3rd. Qtr '03	Percentage Change	
				'04/'03 3rd. Qtr	3rd. Qtr '04 2nd. Qtr '04
Crude Oil Production (000 bbl)[a]	22,304	17,278	18,708	19.2	29.1
Natural Gas Production (000 mcf)[b]	477,346	399,811	407,034	17.3	19.4
Rig Count	170	164	136	25.0	3.7
Intial Unemployment Claims	23,384	24,809	26,714	-12.5	-5.7
Permit-Authorized Construction					
Residential Single Family					
Dollar Value ($000)	511,451	529,361	421,046	21.5	-3.4
Number of Units	3,463	3,657	3,050	13.5	-5.3
Residential-Multi Family					
Dollar Value ($000)	23,245	25,873	29,574	-21.4	-10.2
Number of Units	380	390	542	-29.9	-2.6
Total Construction ($000)	534,696	555,234	450,620	18.7	-3.7
Employment					
Total Labor Force (000)[c]	1,712.3	1,707.7	1,703.9	0.5	0.3
Total Employment (000)	1,641.1	1,626.9	1,607.4	2.1	0.9
Unemployment Rate (%)	4.1	4.7	5.7	—	—
Wage and Salary Employment (000)	1,456.2	1,466.8	1,434.8	1.5	-0.7
Manufacturing	141,600	140,833	141,733	-0.1	0.5
Mining	31,667	30,600	29,200	8.4	3.5
Government	283,467	295,900	277,267	2.2	-4.2
Construction	65,200	64,200	64,167	1.6	1.6
Retail Trade	167,800	169,800	167,633	0.1	-1.2
Average Weekly Hours (Per Worker)					
Manufacturing	41.4	41.6	43.5	-4.8	-0.5
Average Weekly Earnings ($ Per Worker)					
Manufacturing	588.67	598.90	564.52	4.3	-1.7

Note: Includes revisions in some previous months.

[a]Figures are for 3rd Qtr 2004.

[b]Sales of larger private owned utility companies.

[c]Labor Force refer to place of residence, non-agricultural wage and salary employment refers to place of work.

OKLAHOMA GENERAL BUSINESS INDEX

	Dec. '04	Preliminary Forcecast Dec. '03	Dec. '02	Percentage Change	
				'04/'03 Dec.	'04/'02 Dec.
State	132.8	130.0	130.2	2.2	2.0
Oklahoma City MSA	140.2	134.0	133.7	4.6	4.9
Tulsa MSA	130.1	126.3	128.9	3.0	0.9

ADJUSTED RETAIL TRADE FOR METRO AREAS AND STATE ($ Seasonally Adjusted)

	3rd. Qtr '04	2nd. Qtr '04	3rd. Qtr '03	Percentage Change '04/'03 3rd. Qtr	Percentage Change 3rd. Qtr '04 2nd. Qtr '04
OKLAHOMA CITY MSA					
Durable Goods	665,809,430	651,378,710	633,812,317	5.0	2.2
Lumber, Building Materials and Hardware	248,820,463	239,826,434	218,912,088	13.7	3.8
Auto Accessories and Repair	90,656,738	92,013,773	92,390,121	-1.9	-1.5
Furniture	82,848,576	81,670,171	87,158,610	-4.9	1.4
Computer, Electronics and Music Stores	87,723,763	80,315,867	87,577,335	0.2	9.2
Miscellaneous Durables	138,402,695	140,514,240	131,373,792	5.4	-1.5
Used Merchandise	17,357,195	17,038,225	16,400,370	5.8	1.9
Nondurable Goods	1,760,454,194	1,741,618,194	1,682,229,129	4.7	1.1
General Merchandise	617,898,425	603,066,185	596,504,215	3.6	2.5
Food Stores	263,773,661	266,310,944	277,513,313	-5.0	-1.0
Apparel	106,624,245	106,250,493	107,214,182	-0.6	0.4
Eating and Drinking Places	363,030,113	362,629,562	348,150,604	4.3	0.1
Drug Stores	39,975,587	39,584,278	39,008,120	2.5	1.0
Liquor Stores	22,411,981	21,657,712	22,787,784	-1.6	3.5
Miscellaneous Nondurables	91,489,026	90,562,622	87,899,035	4.1	1.0
Gasoline	255,251,155	251,556,398	203,151,876	25.6	1.5
Total Retail Trade	2,426,263,623	2,392,996,904	2,316,041,446	4.8	1.4
TULSA MSA					
Durable Goods	435,269,235	430,806,742	430,760,466	1.0	1.0
Lumber, Building Materials and Hardware	152,657,710	154,636,665	134,906,206	13.2	-1.3
Auto Accessories and Repair	56,153,197	57,208,408	61,695,195	-9.0	-1.8
Furniture	52,297,845	53,249,166	54,284,492	-3.7	-1.8
Computer, Electronics and Music Stores	70,320,166	64,174,095	75,116,327	-6.4	9.6
Miscellaneous Durables	91,911,662	88,850,776	91,715,203	0.2	3.4
Used Merchandise	11,928,654	12,687,632	13,043,043	-8.5	-6.0
Nondurable Goods	1,303,549,551	1,257,751,013	1,210,078,397	7.7	3.6
General Merchandise	427,428,166	422,657,205	420,300,753	1.7	1.1
Food Stores	214,581,289	213,435,921	226,283,653	-5.2	0.5
Apparel	76,760,151	77,063,262	75,720,445	1.4	-0.4
Eating and Drinking Places	240,735,328	240,105,241	227,632,045	5.8	0.3
Drug Stores	29,637,715	29,959,928	29,625,723	0.0	-1.1
Liquor Stores	18,703,409	17,989,155	19,061,927	-1.9	4.0
Miscellaneous Nondurables	106,961,062	70,590,643	61,238,536	74.7	51.5
Gasoline	188,742,431	185,949,658	150,215,316	25.6	1.5
Total Retail Trade	1,738,818,785	1,688,557,755	1,640,838,863	6.0	3.0
ENID MSA					
Durable Goods	28,057,660	27,430,096	25,649,131	9.4	2.3
Lumber, Building Materials and Hardware	11,002,509	10,093,775	9,506,436	15.7	9.0
Auto Accessories and Repair	5,438,675	5,707,804	5,593,125	-2.8	-4.7
Furniture	2,757,599	2,747,926	2,338,800	17.9	0.4
Computer, Electronics and Music Stores	2,782,478	2,458,028	2,169,597	28.2	13.2
Miscellaneous Durables	5,373,258	5,690,405	5,389,938	-0.3	-5.6
Used Merchandise	703,140	732,158	651,234	8.0	-4.0

ADJUSTED RETAIL TRADE FOR METRO AREAS AND STATE ($ Seasonally Adjusted)

	3rd. Qtr '04	2nd. Qtr '04	3rd. Qtr '03	Percentage Change 04/'03 3rd. Qtr	Percentage Change 3rd. Qtr '04 2nd. Qtr '04
ENID MSA					
Nondurable Goods	90,682,208	91,396,573	88,146,845	2.9	-0.8
General Merchandise	33,637,889	33,903,134	31,331,537	7.4	-0.8
Food Stores	17,704,264	17,773,476	19,748,234	-10.4	-0.4
Apparel	3,757,319	3,996,965	3,715,442	1.1	-6.0
Eating and Drinking Places	13,970,039	13,961,962	14,370,003	-2.8	0.1
Drug Stores	2,553,113	2,693,599	2,646,111	-3.5	-5.2
Liquor Stores	873,716	866,139	896,056	-2.5	0.9
Miscellaneous Nondurables	4,194,244	4,412,224	4,303,667	-2.5	-4.9
Gasoline	13,991,623	13,789,074	11,135,794	25.6	1.5
Total Retail Trade	118,739,867	118,826,670	113,795,976	4.3	-0.1
LAWTON MSA					
Durable Goods	39,213,970	40,996,759	38,970,238	0.6	-4.3
Lumber, Building Materials and Hardware	15,977,380	16,887,319	15,732,835	1.6	-5.4
Auto Accessories and Repair	6,075,301	6,355,037	6,457,313	-5.9	-4.4
Furniture	4,026,433	4,180,327	3,938,996	2.2	-3.7
Computer, Electronics and Music Stores	3,299,839	3,607,895	3,610,222	-8.6	-8.5
Miscellaneous Durables	8,382,292	8,518,682	8,079,204	3.8	-1.6
Used Merchandise	1,452,725	1,447,500	1,151,669	26.1	0.4
Nondurable Goods	146,733,504	146,272,193	140,202,983	4.7	0.3
General Merchandise	66,317,968	66,851,083	63,509,818	4.4	-0.8
Food Stores	17,694,469	17,176,063	17,405,229	1.7	3.0
Apparel	7,909,824	8,515,958	8,875,135	-10.9	-7.1
Eating and Drinking Places	27,443,985	27,055,697	25,995,802	5.6	1.4
Drug Stores	2,203,413	2,326,676	2,242,491	-1.7	-5.3
Liquor Stores	1,001,364	1,014,377	1,022,838	-2.1	-1.3
Miscellaneous Nondurables	6,320,232	6,130,789	5,789,467	9.2	3.1
Gasoline	17,842,249	17,201,550	15,362,204	16.1	3.7
Total Retail Trade	185,947,474	187,268,952	179,173,221	3.8	-0.7
OKLAHOMA					
Durable Goods	1,671,769,788	1,674,511,668	1,592,400,101	5.0	-0.2
Lumber, Building Materials and Hardware	636,962,277	635,522,328	549,037,652	16.0	0.2
Auto Accessories and Repair	267,018,490	266,844,152	267,091,115	0.0	0.1
Furniture	190,039,421	192,751,043	191,297,280	-0.7	-1.4
Computer, Electronics and Music Stores	215,437,421	221,035,495	229,092,086	-6.0	-2.5
Miscellaneous Durables	318,979,143	314,499,846	313,669,436	1.7	1.4
Used Merchandise	43,333,036	43,858,804	42,212,533	2.7	-1.2
Nondurable Goods	5,029,812,073	4,973,401,156	4,779,374,850	5.2	1.1
General Merchandise	1,720,125,163	1,696,653,887	1,657,472,011	3.8	1.4
Food Stores	907,627,710	917,032,948	952,996,828	-4.8	-1.0
Apparel	245,611,966	241,811,711	244,014,279	0.7	1.6
Eating and Drinking Places	898,813,832	895,671,658	857,534,202	4.8	0.4
Drug Stores	106,909,642	102,901,516	96,631,675	10.6	3.9
Liquor Stores	54,669,167	54,490,572	59,043,718	-7.4	0.3
Miscellaneous Nondurables	268,974,276	249,730,661	253,417,093	6.1	7.7
Gasoline	827,080,317	815,108,203	658,265,042	25.6	1.5
Total Retail Trade	6,701,581,862	6,654,470,289	6,371,774,951	5.2	0.7

ADJUSTED RETAIL TRADE FOR SELECTED CITIES ($ Seasonally Adjusted)

	3rd. Qtr '04	2nd. Qtr '04	3rd. Qtr '03	Percentage Change	
				' '04/'03 3rd. Qtr	3rd. Qtr '04 2nd. Qtr '04
Ada	56,322,762	56,459,156	58,336,547	-3.5	-0.2
Altus	45,156,207	45,345,813	44,417,418	1.7	-0.4
Alva	14,166,654	13,915,417	13,398,678	5.7	1.8
Anadarko	14,925,953	14,936,140	14,891,458	0.2	-0.1
Ardmore	86,629,166	84,296,665	82,455,179	5.1	2.8
Bartlesville	101,155,051	100,382,915	94,729,894	6.8	0.8
Blackwell	10,752,847	10,740,805	10,317,005	4.2	0.1
Broken Arrow	142,188,969	140,328,275	132,787,162	7.1	1.3
Chickasha	38,154,458	37,387,229	37,310,338	2.3	2.1
Clinton	19,860,512	19,795,280	17,924,125	10.8	0.3
Cushing	15,722,040	15,131,487	15,477,443	1.6	3.9
Del City	31,177,239	31,229,279	27,939,338	11.6	-0.2
Duncan	52,886,605	52,415,591	50,956,174	3.8	0.9
Durant	45,936,302	45,411,579	44,329,225	3.6	1.2
Edmond	200,093,925	193,333,020	182,290,667	9.8	3.5
El Reno	29,426,036	28,973,369	28,035,333	5.0	1.6
Elk City	38,071,986	37,390,647	32,796,084	16.1	1.8
Enid	112,027,029	111,051,885	108,329,533	3.4	0.9
Guthrie	20,440,454	20,192,001	19,572,534	4.4	1.2
Guymon	23,374,881	23,155,572	23,364,331	0.0	0.9
Henryetta	10,611,680	11,896,969	12,384,179	-14.3	-10.8
Hobart	6,388,586	6,326,793	6,091,104	4.9	1.0
Holdenville	8,235,891	8,327,350	8,189,145	0.6	-1.1
Hugo	17,712,973	17,665,744	16,719,987	5.9	0.3
Idabel	18,708,734	18,393,278	15,791,099	18.5	1.7
Lawton	189,160,550	185,046,936	170,936,015	10.7	2.2
McAlester	69,517,854	67,682,084	64,406,329	7.9	2.7
Miami	30,514,414	29,730,860	29,963,948	1.8	2.6
Midwest City	137,776,977	137,388,084	135,734,246	1.5	0.3
Moore	85,784,662	82,559,983	79,768,604	7.5	3.9
Muskogee	113,384,596	108,545,891	109,629,894	3.4	4.5
Norman	262,380,249	255,399,386	248,996,541	5.4	2.7
Oklahoma City	1,311,021,730	1,287,492,261	1,263,700,483	3.7	1.8
Okmulgee	34,728,562	34,674,562	33,551,739	3.5	0.2
Pauls Valley	21,001,915	19,534,311	20,553,541	2.2	7.5
Pawhuska	5,549,120	5,296,290	5,411,220	2.5	4.8
Ponca City	69,036,212	68,460,362	68,025,436	1.5	0.8
Poteau	33,112,279	32,729,939	31,920,985	3.7	1.2
Sand Springs	54,403,664	54,462,171	49,696,084	9.5	-0.1
Sapulpa	50,546,369	49,542,854	48,299,584	4.7	2.0
Seminole	23,437,069	23,570,771	20,338,136	15.2	-0.6
Shawnee	90,933,828	89,685,577	86,346,640	5.3	1.4
Stillwater	115,951,964	113,324,258	107,957,935	7.4	2.3
Tahlequah	51,746,701	45,243,485	50,438,034	2.6	14.4
Tulsa	1,174,978,820	1,141,227,816	1,127,105,288	4.2	3.0
Watonga	5,383,583	5,374,937	5,416,980	-0.6	0.2
Weatherford	30,653,602	28,169,867	26,017,049	17.8	8.8
Wewoka	11,930,968	11,428,018	9,859,398	21.0	4.4
Woodward	47,090,355	46,400,608	43,572,524	8.1	1.5
Total Selected Cities	5,180,152,982	5,067,453,571	4,936,480,613	4.9	2.2

SELECTED INDICATORS FOR THE ENID AND LAWTON MSA'S AND MUSKOGEE MA

	3rd. Qtr '04	2nd. Qtr '04	3rd. Qtr '03	Percentage Change '04/'03 3rd. Qtr	Percentage Change 3rd. Qtr '04 2nd. Qtr '04
ENID MSA					
Employment (Number)					
Labor Force[a]	26,667	26,303	26,860	-0.7	1.4
Total Employment	26,010	25,623	25,923	0.3	1.5
Unemployment Rate (%)	2.5	2.6	3.5	—	—
Wage and Salary Employment	22,300	22,667	22,900	-2.6	-1.6
Wholesale and Retail Trade	4,100	4,133	4,200	-2.4	-0.8
Manufacturing	2,100	2,133	2,233	-6.0	-1.5
Permit-Authorized Construction					
Residential-Single Family					
Dollar Value ($000)	3,790	2,511	3,193	18.7	50.9
Number of Units	23	15	21	9.5	53.3
Residential-Multi Family					
Dollar Value ($000)	3,790	4,063	5,742	-34.0	-6.7
Number of Units	47	52	109	-56.9	-9.6
Total Construction ($000)	7,580	6,574	8,935	-15.2	15.3
LAWTON MSA					
Employment (Number)					
Labor Forcea	43,123	43,030	42,870	0.6	0.2
Total Employment	41,650	41,513	41,303	0.8	0.3
Unemployment Rate (%)	3.4	3.5	3.7	—	—
Wage and Salary Employment	38,367	39,100	38,633	-0.7	-1.9
Wholesale and Retail Trade	5,600	5,700	5,667	-1.2	-1.8
Manufacturing	3,400	3,500	3,533	-3.8	-2.9
Permit-Authorized Construction					
Residential-Single Family					
Dollar Value ($000)	4,574	4,873	4,562	0.3	-6.1
Number of Units	38	40	38	0.0	-5.0
Residential-Multi Family					
Dollar Value ($000)	0	0	25	—	—
Number of Units	0	0	5	—	—
Total Construction ($000)	4,574	4,873	4,587	-0.3	-6.1
MUSKOGEE MA					
Employment (Number)					
Labor Forcea	30,643	30,693	31,273	-2.0	-0.2
Total Employment	28,587	28,620	29,007	-1.4	-0.1
Unemployment Rate (%)	6.7	6.7	7.3	—	—
Water Transportation					
Port of Muskogee					
Tons In	156,649	113,910	104,307	50.2	37.5
Tons Out	35,127	35,068	44,189	-20.5	0.2

Note: Includes revisions.
[a]Civilian Labor Force.
E = Exceeds 600 percent.

SELECTED INDICATORS FOR THE TULSA MSA

	3rd. Qtr '04	2nd. Qtr '04	3rd. Qtr '03	Percentage Change '04/'03 3rd. Qtr	Percentage Change 3rd. Qtr '04 2nd. Qtr '04
Employment (Number)					
Labor Force[a]	426,847	425,220	428,193	-0.3	0.4
Total Employment	408,503	404,393	400,237	2.1	1.0
Unemployment Rate (%)	4.3	4.9	6.5	—	—
Wage and Salary Employment	377,500	382,233	377,067	0.1	-1.2
Manufacturing	46,133	46,267	45,667	1.0	-0.3
Mining	3,933	3,833	4,000	-1.7	2.6
Government	42,533	45,300	41,733	1.9	-6.1
Wholesale and Retail Trade	57,300	57,800	58,900	-2.7	-0.9
Average Weekly Earnings					
Manufacturing ($ Per Worker)	684.97	683.10	653.29	4.8	0.3
Air Transportation					
Passengers Enplaning (Number)	383,466	397,668	357,558	7.2	-3.6
Passengers Deplaning (Number)	385,660	387,939	364,949	5.7	-0.6
Freight (Tons)	13,667	13,939	12,202	12.0	-2.0
Water Transportation					
Tulsa Port of Catoosa					
Tons In	217,103	272,633	220,250	-1.4	-20.4
Tons Out	359,233	260,819	385,220	-6.7	37.7
Permit-Authorized Construction					
Residential-Single Family					
Dollar Value ($000)	157,606	170,900	134,876	16.9	-7.8
Number of Units	1,113	1,175	1,008	10.4	-5.3
Residential-Multi Family					
Dollar Value ($000)	3,140	3,470	3,025	3.8	-9.5
Number of Units	53	60	40	32.5	-11.7
Total Construction	160,746	174,370	137,901	16.6	-7.8

Note: Includes revisions.
[a]Civilian Labor Force.
E = Exceeds 600 percent.

SELECTED INDICATORS FOR OKLAHOMA CITY MSA

	3rd. Qtr '04	2nd. Qtr '04	3rd. Qtr '03	Percentage Change '04/'03 3rd. Qtr	Percentage Change 3rd. Qtr '04 2nd. Qtr '04
Employment (Number)					
Labor Force[a]	591,660	586,663	579,187	2.2	0.9
Total Employment	569,920	561,460	550,333	3.6	1.5
Unemployment Rate (%)	3.6	4.3	5.0	—	—
Wage and Salary Employment	536,137	540,300	527,633	1.6	-0.8
Manufacturing	37,967	36,600	37,967	0.0	3.7
Mining	7,433	7,167	7,167	3.7	3.7
Government	101,767	107,900	102,433	-0.7	-5.7
Wholesale and Retail Trade	81,967	82,067	81,167	1.0	-0.1
Average Weekly Earnings					
Manufacturing ($ Per Worker)	516.42	518.74	636.46	-18.9	-0.4
Air Transportation					
Passengers Enplaning (Number)	441,960	448,156	430,816	2.6	-1.4
Passengers Deplaning (Number)	446,310	441,540	440,050	1.4	1.1
Freight Enplaned (Tons)	3,454	3,398	3,585	-3.7	1.6
Freight Deplaned (Tons)	4,662	4,449	4,374	6.6	4.8
Permit-Authorized Construction					
Residential-Single Family					
Dollar Value ($000)	302,234	310,906	247,640	22.0	-2.8
Number of Units	1,961	2,114	1,739	12.8	-7.2
Residential-Multi Family					
Dollar Value ($000)	8,197	15,538	15,170	-46.0	-47.2
Number of Units	134	237	269	-50.2	-43.5
Total Construction ($000)	310,431	326,444	262,810	18.1	-4.9

Note: Includes revisions.
[a]Civilian Labor Force.