<u>Consumer Debt Stress Index Report: September 2009</u>

Stress on Consumers from Debt Begins to Recede after Record Highs over Summer

"Women Hit Harder than Men"

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With the advent of the current recession, consumer debt has become a central concern for U.S. policy makers. Although for many years there have been widespread warnings about the mounting stress from debt for US households from credit counselors, psychologists, physicians, the clergy, and others, much of this information has been anecdotal and scattered. Beginning this month, an index developed by researchers at the Ohio State University based on a nationwide household survey will be released on a monthly basis to systematically track the psychological stress that consumer debt is causing in the U.S. population.

The Consumer Debt Stress Index (DSI) is based on questions which probe stress from all consumer debt sources including credit cards, mortgages, home equity loans, car loans, student loans, etc. Using a five-point scale, the survey questions elicit the following: (a) frequency of worry over debt; (b) amount of stress from debt; (c) extent of expected problems from debt over the next five years; and (d) concern about the inability to ever pay off debt. The questions were developed at the Ohio State University under the leadership of Dr. Paul J. Lavrakas, as reported in the *American Statistical Association Proceedings, 2000*.[1] They have been implemented in a monthly survey of a national random sample of US households by the Center for Human Resource Research at the Ohio State University since 2005.[2] The index is designed so that it has a value of 100 in an initial month, or base period, which is January 2006. Its values in subsequent months show how the level of stress over debt has been changing over time for households.

This index is a compliment to debt stress measures arising from the annual Associated Press poll as reported by Lavrakas and Tompson[3] using the same survey questions. The monthly DSI

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[1] The wording of the questions used in the index appears in Appendix B.

[2] The data are drawn from a nationwide random digit dialing telephone survey conducted by the Center for Human Resource Research at Ohio State University. The reported figure represents a three-month moving average of the index values, with the average sample size being 658. The sample size for the September 2009 index is 388. The months of March and April of 2006 and June through September of 2007 are not present due to a pause in the survey questions.

reported here will allow for a more frequent reading of the stress situation. It is also computed in a different way so as to show the percentage change in stress among the U.S. population from the original base period.

In September 2009, the DSI fell to a value of 132.8, after peaking at a record high of 155.3 in July. This is compared to its initial January 2006 base period value of 100. Thus the DSI is now approximately 33 percent higher than it was at the beginning of 2006. The path of the index since its inception is plotted in Figure 1 below.

Looking at the history of the index, it remained in the range of the 90s throughout most of 2006 and the first half of 2007. The index reached its historic low point of 90.3 in May 2007, just before the collapse of the subprime mortgage market. The subprime collapse brought a sharp turnaround in the index; and by October of 2007, the index had jumped over the 100 mark. It continued its upward trajectory -- as shown in the diagram in Figure 1 below -- as the economy slide into recession at the end of 2007 and consumers struggled to manage their debts in the midst of the worse economic downturn since the Great Depression. Another up-tick in debt stress for U.S. households was recorded in the early fall of 2008 amid the turmoil in financial markets brought about by the bankruptcy of Lehman Brothers and a general tightening of credit conditions. The index continued its upward trend through July 2009 as debt-burdened consumers fought to stabilize their finances in the midst of a high-unemployment economy.

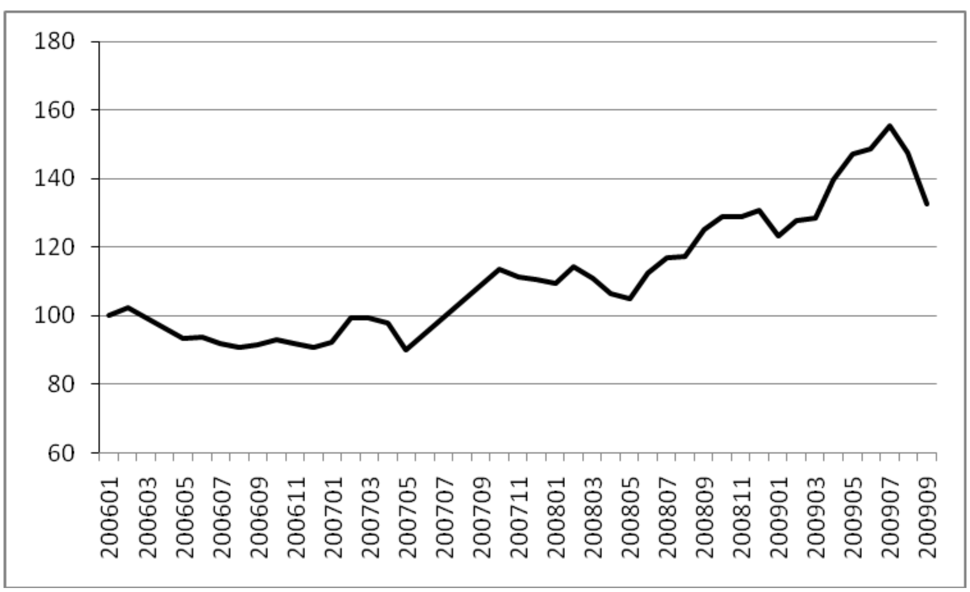

Table 1: OVERALL CONSUMER DEBT STRESS INDEX

[3] Paul J. Lavrakas and Trevor N. Thompson, "New Research on the Measurement of Debt Stress," MAPOR Annual Conference, November 2008; Paul J. Lavrakas and Trevor N. Thompson, "New Research on the Measurement of Debt Stress and Related Health Problems," AAPOR Annual Conference, May 2009.

Later in the past summer, reports on the economy became more encouraging, with the retail and housing sectors showing renewed signs of life. The good news clearly brought some psychological relief to consumers. August saw the first signs that debt stress was moderating. The downward trend in stress continued in September with a strong 10 percent drop in the Consumer Debt Stress Index to leave the index at its current value of 132.8. Nevertheless, these high levels on debt stress on consumers are still troubling and could bode ill for the upcoming holiday shopping season, especially if unemployment continues to increase throughout the rest of 2009 as has been forecast by economists.

Gender Differences: *Women – More Debt, More Stress*

Stark differences are apparent between the genders in the survey. In general, women in the sample show a greater degree of debt stress than males. The value of the September index for women was 143.6, whereas for men the value was 120.7. This trend has been present throughout the history of the index, as can be seen in the plot by gender presented in Figure 2 below. Debt stress levels have abated for both men and women in the past two months, but the gender gap remains. We have examined the numbers controlling for debt-to-income ratios and find that there are two factors that explain the gender difference. First, if we look at our total three and a half-year sample of over 8,700 survey respondents, we find that the ratio of debt to income is 10 percent higher for all female respondents than for all male respondents. (This is considering both married and non-married females and income refers to total household income.) Secondly, even *for the same level of debt-to-income*, the amount of debt stress that a woman experiences is approximately 34 percent higher than the debt stress that a man experiences.

Probing further, we examined the two genders for non-married respondents only to take out any confounding family-related issues. For non-married respondents only, the ratio of debt to income of non-married women is on average a full 21 percent higher than the ratio of debt to income for non-married men. However, for *any given level of debt-to-income*, the amount of stress that a non-married woman experiences is about 33 percent greater than the stress experienced by a non-married man. Thus in these difficult economic times, women appear to be facing a greater psychological struggle over their debt condition than their male counterparts, and it cannot be attributed to differences in debts relative to income.

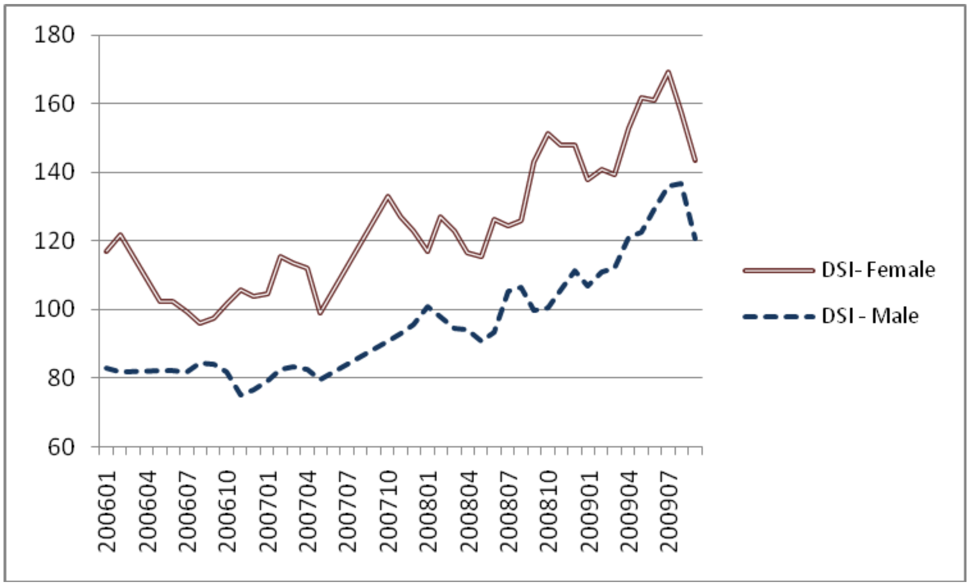

Table 2: CONSUMER DEBT STRESS INDEX BY GENDER

Effects on Family Life, Job Performance, and Health

Further insight into the impact that debt is having on American households can be gleaned from additional questions asked in the survey. These questions probe the degree to which debt has affected the respondent's (a) family life, (b) job performance, and (c) health. Results from these questions will be reported on a monthly basis along with the Debt Stress Index so that changes in these critical life aspects for the U.S. population can be tracked over time. The numbers in the tables presented below represent averages for the three-month period ending in the month indicated in the column heading.

These additional questions show that the problems created by debt for respondents' family life and job performance have also been increasing over the past few years since the base period of January 2006. The question about the impact on health has been added to the survey more recently. Its numbers, however, are striking, with approximately 26 percent of September 2009 respondents reporting that their health had been adversely impacted by debt (ranging from "somewhat affected" to "very much affected", i.e., the top three stress impact categories). The percent responding "very much affected" has almost doubled from a year ago. The health issues arising from debt stress have been explored in detail by Lavrakas and Tompson in the 2008 annual Associated Press poll, which showed that debt stress is positively associated with migraines, back problems, ulcers, heart problems, and other debilitating conditions.

Problem of Debt for Family Life*

Response Category	*Percentage Response*	*Percentage Response*	*Percentage Response*	*Percentage Response*
	September 2009	**August 2009**	**September 2008***	**January 2006**
Extreme Problem	10.3%	10.2%	2.7%	3.4%
Large Problem	6.1	10.5	7.4	2.7
Medium Problem	13.9	15.7	17.2	11.4
Small Problem	16.5	11.8	19.3	19.5
No Problem At All	53.2	51.8	53.5	63.0

* 3-month period sample sizes are: 413 for January 2006; 601 for September 2008; 327 for August 2009; 404 for September 2009.

Problem of Debt for Job Performance

Response Category	*Percentage Response*	*Percentage Response*	*Percentage Response*	*Percentage Response*
	September 2009	**August 2009**	**September 2008***	**January 2006**
Extreme Problem	6.0%	6.1%	1.0%	0.4%
Large Problem	3.7	3.7	4.4	1.8
Medium Problem	6.5	7.2	6.4	6.6
Small Problem	10.9	12.3	7.7	8.7
No Problem At All	72.9	70.7	81.0	82.5

Extent Debt Has Affected Health*

Response Category	*Percentage Response*	*Percentage Response*	*Percentage Response*	*Percentage Response*
	September 2009	**August 2009**	**September 2008***	**January 2006**
Very Much Affected	7.1%	9.6%	3.7%	n.a.
Quite Affected	3.2	2.2	5.1	n.a.
Somewhat Affected	15.4	19.7	14.5	n.a.
Not Much Affected	15.0	11.4	12.8	n.a.
Not At All Affected	59.3	57.1	63.9	n.a.

Appendix A: Historic Series on Debt Stress Index[4]

Date	Debt Stress Index
January 2006	100.0
February 2006	102.5
May 2006	93.4
June 2006	93.7
July 2006	91.8
August 2006	90.9
September 2006	91.5
October 2006	93.2
November 2006	92.0
December 2006	90.9
January 2007	92.2
February 2007	99.5
March 2007	99.5
April 2007	98.0
May 2007	90.3
October 2007	113.5
November 2007	111.3
December 2007	110.5
January 2008	110.0
February 2008	114.3
March 2008	110.8
April 2008	106.5
May 2008	105.0
June 2008	112.3
July 2008	116.9
August 2008	117.3
September 2008	125.0
October 2008	129.0
November 2008	129.0
December 2008	130.6
January 2009	123.3
February 2009	127.9
March 2009	128.6
April 2009	139.9
May 2009	147.2
June 2009	148.7
July 2009	155.3
August 2009	147.6
September 2009	132.8

[4] The months of March and April of 2006 and June through September of 2007 are not present due to a pause in the debt stress survey questions.

Appendix B: Construction of Debt Stress Index and Survey Questions

The Debt Stress Index is based upon four survey questions which are presented below. The five possible response categories are coded from zero to four with zero being the lowest stress category, as well as the category that contains respondents with no debt. Each month the four response numbers $X_{i,j}$ for each individual respondent are averaged.[5] To obtain the "raw score" for the index from the individual scores, we next average across the n individuals in the sample for that month. Finally, we incorporate a base period.

Incorporating a base period into the construction of an index is critical for allowing a given period's index value to be compared to the value of the index from another period of interest. For example, the Index of Consumer Sentiment computed by the Survey Research Center at the University of Michigan chooses 1966 as its base year and constructs its index to have a value of 100 in that year. For the Debt Stress Index presented here, the initial period of available data, January 2006, was chosen as the base period, and the raw score value of the index in that period is 0.9460 Dividing each period's raw score by this base period (and multiplying by 100), the base period is thus defined to have the value of 100 and subsequent monthly periods are defined relative to that initial period.

The computation of the index, referred to as the DSI, can thus be represented as follows:

$$DS_i = \frac{1}{4}\left(X_{i,1} + X_{i,2} + X_{i,3} + X_{i,4}\right)$$

$$DSI = \frac{100}{0.946} \times \frac{1}{n}\sum_{i=1}^{n} DS_i$$

To enhance the statistical reliability of the index, we have used a rolling three-month technique whereby the index is based on three months of data, with data from the most recent month added and data from the oldest month dropped in a rolling fashion. Thus, for example, the September index is based on data from July, August, and September.

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Index Questions

The wording of the survey questions is presented below.

1. Overall, how often do you worry about the total amount you (and your spouse/partner) owe in overall debt? Would you say you worry (a) all of the time; (b) most of the time; (c) some of the time; (d) hardly ever; or (e) not at all?

[5] The responses of the sample are weighted using U.S. Census data to more accurately reflect the socioeconomic make-up of the general population.

2. How much stress does the total debt you (and your spouse/partner) are carrying cause to you? It is (a) a great deal of stress; (b) quite a bit; (c) some stress; (d) not very much; or (e) no stress at all?

3. Now, thinking ahead over the next five years, how much of a problem, if any, will the total debt you (and your spouse/partner) have taken on be for you? Will it be (a) an extreme problem; (b) a large problem; (c) medium problem; (d) small problem; or (e) no problem at all?

4. How concerned are you that you (and your spouse/partner) will *never* be able to pay off these debts? Are you (a) very much concerned; (b) quite concerned; (c) somewhat concerned; (d) not very concerned; or (e) not at all concerned?

Questions for Additional Areas of Impact for Debt Stress – Not Part of DSI

1. How much of a problem, if any, has your (and your spouse/partner's) debt caused for your family life? Is it an extreme problem, a large problem, a medium problem, a small problem, or no problem at all?

2. How much of a problem, if any, has your (and your spouse/partner's) debt caused for your job performance? Is it an extreme problem, a large problem, a medium problem, a small problem, or no problem at all?

3. To what extent has your (and your spouse/partner's) debt affected your health. Very much affected, quite affected, somewhat affected, not much affected, or not at all affected?