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**Social Efficiency Of The Bankruptcy  
Reform Act Of 1978  
With Regard To Personal Bankruptcy**

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# SOCIAL EFFICIENCY OF THE BANKRUPTCY REFORM ACT OF 1978 WITH REGARD TO PERSONAL BANKRUPTCY

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## Abstract

A socially efficient bankruptcy law is defined as one that minimizes the present value of creditors' losses stemming from bankruptcy while permitting debtors to retain sufficient assets or income to make a "fresh start." Analysis of a sample of petitions for personal nonbusiness bankruptcy shows that under the Bankruptcy Reform Act of 1978 about 30 percent of petitions for chapter 7 and about 25 percent of petitions for chapter 13 were cases where creditors' losses were not minimized as would be required under socially efficient bankruptcy legislation. The incidence of inefficiency in chapter 7 may be reduced under proposed reform [S.445 and H.R. 1800], as the judge would be provided with information concerning estimates of the creditors' recovery under both chapters and would disallow those chapter 7 cases which represented a substantial abuse of the intent of the bankruptcy law. Our data suggest that chapter 13 cases should also be scrutinized--petitioners should be prevented from providing "token" repayment plans to creditors while maintaining ownership of assets with value that greatly exceeds the value of asset exemptions.

# SOCIAL EFFICIENCY OF THE BANKRUPTCY REFORM ACT OF 1978 WITH REGARD TO PERSONAL BANKRUPTCY

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The Bankruptcy Reform Act of 1978 was the product of many years of debate among lawyers and lawmakers. Although economists had little input to the debate, the incidence of bankruptcy has important economic implications, and socially efficient bankruptcy regulation is desirable. In this paper we evaluate the social efficiency of the law governing personal bankruptcy.

A "socially efficient" bankruptcy law is one that minimizes the present value of creditors' losses (social costs) stemming from bankruptcy, while permitting debtors to retain sufficient assets or income to make a "fresh start."<sup>1</sup> Data collected from a sample of petitioners for chapter 7 and chapter 13 are used to estimate the social efficiency of the current law and whether suggested reform would reduce the social cost of personal bankruptcy.

## I. The Social Efficiency of Bankruptcy

The social cost of bankruptcy that concerns us in this study is the effect on the cost of credit for all credit users when a debtor voluntarily elects formal relief from debts in bankruptcy court. Since expected bankruptcy losses are a cost of doing business, increases in those costs raise the cost of credit in general. Those borrowers who repay their debts in full are thus forced to subsidize those debtors who avoid their repayment responsibility by taking bankruptcy.

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<sup>1</sup> There is no specific legal definition of what is required to make a fresh start. In chapter 7, the means to a fresh start is provided through asset exemptions; in chapter 13 the means is provided through the retention of assets, limitation of debt payments to that amount of income above necessary living expenses and the limit on the length of the repayment period.

The Debtor's Choice. A debtor who fails to make scheduled payments on outstanding debts out of current income has an alternative to formal bankruptcy which we call informal liquidation.<sup>2</sup> Informal liquidation involves the distribution to creditors of the proceeds realized from the voluntary sale of assets. So long as the liquidated value of assets exceeds the total of all creditors' claims, there is no dispute among creditors. However, if the liquidated value of assets is less than the total of creditors' claims, there will be conflict among creditors regarding the distribution of the proceeds. To insure equitable treatment, a creditor has an incentive to force the debtor into formal bankruptcy.

The stated purpose of formal bankruptcy is to provide a fresh start for the debtor and to insure equity among creditors. Given the current legal procedure for personal bankruptcy, a debtor with total assets less than or equal to the value of creditors' claims would always prefer formal bankruptcy to informal liquidation.<sup>3</sup> In formal bankruptcy, the debtor does not have to forfeit all assets, A, but only A-E where E is the market value of assets legally exempted from creditors' claims. The fresh start in bankruptcy is provided by the assets that are exempted.

An eligible debtor will choose formal bankruptcy when the expected net benefit exceeds the costs.<sup>4</sup> The marginal benefit of formal bankruptcy is the increase in net worth realized by the debtor--total liabilities discharged less total assets liquidated (if any). The costs of formal bankruptcy include court costs, legal fees and the loss of the expected value of benefits from future dealing with creditors.<sup>5</sup>

The question of social efficiency develops from the fact that debtors are free to choose between two avenues to formal debt relief. The debtor may continue making payments under the protection of the court, albeit at a level less than that specified in the original credit contract, keeping all assets intact (chapter 13) and discharging unpaid debts. Or, the debtor may have nonexempt assets liquidated by a trustee of the court and distributed to creditors (chapter 7) with remaining debts discharged. The rational debtor would choose that avenue that has the higher-valued effect on net worth. Socially efficient bankruptcy legislation would require the debtor to choose between continuance or liquidation in bankruptcy such that the final choice provides creditors with the higher valued recovery.<sup>6</sup> The two objectives are in direct conflict. We turn now to a discussion of the specific provisions of the law regarding personal bankruptcy, an empirical analysis of the social efficiency of a sample of cases filed under the Bankruptcy Reform Act of 1978, and an estimate of the reduction in social cost which would be realized if debtors were required by law to make a socially efficient choice.

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<sup>2</sup> See Haugen and Senbet [2].

<sup>3</sup> Debtors with assets exceeding the value of debts could be indifferent between formal and informal bankruptcy.

<sup>4</sup> An eligible debtor is one who has not filed chapter 7 for at least six years.

<sup>5</sup> See Umbeck and Chatfield [6].

<sup>6</sup> See White [7] for a discussion of socially efficient corporate bankruptcy.

## II. Legal Aspects of Filing Under Chapter 13 of the Bankruptcy Code in Lieu of Chapter 7

In liquidation (or straight bankruptcy), all nonexempt assets owned by the debtor are converted to cash and distributed to creditors with allowed claims according to priority rules. At the end of the proceedings, the debtor receives a discharge that absolves him or her from responsibility to pay any dischargeable debts that remain unpaid after the distribution of the proceeds from the sale of assets. Under chapter 13 of the Bankruptcy Code, the debtor proposes a plan for payment of allowed claims out of future income under court supervision. The debtor and usually all the debtor's property are protected from creditors by the court. At the conclusion of the case, the debtor receives a discharge from personal liability of most remaining unpaid debts.

A concept in the new Bankruptcy Code which did not exist under the previous code is that of the "allowed secured claim." The term is applicable under both chapters of the Code dealing with personal bankruptcy. A secured claim is an allowed secured claim in the amount equal to the value of the collateral. The excess of the total claim over the value of the collateral is an allowed unsecured claim.

Any petitioner may file for formal debt relief under chapter 13 if outstanding debts are under specified debt ceilings and there exists sufficient regular income in excess of necessary living expenses to make debt payments. Regular income is not limited to earned wages, but may include welfare payments or income derived from the property of the estate. To exclude large business concerns from gaining protection under chapter 13, the outstanding debt of an individual or couple, if the petition is jointly filed, must be below \$100,000 for unsecured debt and \$350,000 for secured debt, including mortgage debt.<sup>7</sup>

To be confirmed by the bankruptcy court, the proposed repayment plan must be (1) feasible, (2) made in good faith, and (3) in the best interest of the unsecured creditors. Feasibility refers to the debtor's ability to make the proposed payments after basic living expenses, as well as a cushion for unexpected expenses, are deducted from regular income. The good faith requirement implies that the debtor is in no way attempting to use the flexibility of the chapter 13 plan to effect a disguised liquidation and discharge of debt without the loss of assets associated with a chapter 7 bankruptcy. The last requirement means that unsecured creditors are to receive at least as much in repayment as they would if a debtor's nonexempt assets were liquidated by the court.<sup>8</sup>

Once a petitioner has begun repayment, two types of discharge are available. When all payments under the approved plan have been completed, a "full-payment" discharge releases the debtor from all remaining liabilities--even those debts that are nondischargeable under chapter 7 (with the sole exception of alimony and support payments and certain education loans). If the debtor is not able to complete the plan, a hardship discharge may be granted under three conditions:

- (1) if failing to complete the plan is due to circumstances beyond the debtor's control;
- (2) if modification of the plan is not possible; and
- (3) if the amount already repaid to unsecured creditors is not less than what they would have received under chapter 7.

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<sup>7</sup> Note that this does not preclude small businesses from filing under chapter 13.

<sup>8</sup> To satisfy the last stipulation, the chapter 13 petitioner will necessarily claim the highest amount of asset exemptions allowed by law. The plan would be confirmed more readily if it appears that most of the petitioner's assets would be exempt and thus not available for liquidation to repay debt had the petitioner filed under chapter 7.

The current code allows a debtor to choose to pay the lesser of L, the liquidation value of nonexempt assets, or P, the present value of payments as specified in a repayment plan which meets the requirements for chapter 13. Bankruptcy law that would minimize the social cost of bankruptcy would direct the debtor to propose a "best effort" repayment plan P and would require the debtor to choose between liquidation or continuance such that creditors would receive the higher-valued recovery. In the current debate for reform, creditors argue that the effects of existing regulation are socially inefficient because the petitioner is allowed to choose to repay L (take chapter 7) even though P may be greater than L. As a consequence, consumers choose liquidation too frequently and thereby impose excess social costs on consumers who repay their debts.

In the following analysis we estimate the payments to creditors under continuance (P) and under liquidation (L) for two groups of petitioners. One group filed under chapter 7 of the bankruptcy code; the other group filed under chapter 13 of the code. With estimates of the creditors' recovery under both chapters, we are able to analyze the social efficiency of the actual choice and estimate the reduction in social cost that could be expected if petitioners' choice of bankruptcy option was limited.

### III. The Analysis

The data for chapter 7 included 1139 households who filed a personal nonbusiness bankruptcy petition in June-July 1981. The sample was drawn randomly from the population of petitioners in ten states and is representative of the population of petitioners for chapter 7. The states included were California, New York, Ohio, Illinois, Georgia, Virginia, Pennsylvania, Louisiana, Wisconsin and Texas.

The sample of petitioners for chapter 13 included 5047 households who filed repayment plans in mid-summer 1982 and whose plans were subsequently approved. The data were collected from documents filed with an agent who provides bookkeeping services to the trustees of chapter 13 petitioners. The sample included petitioners from the states of California, New York, Ohio, Illinois, Pennsylvania, Missouri, Tennessee, Arkansas and Mississippi.

The data for both samples include information concerning total assets, total liabilities, exemptions (as claimed on the petition), mortgage debt, secured and unsecured debt and income. Court-approved payment plans were available for the chapter 13 sample and "best effort" repayment plans were estimated for the chapter 7 sample. Information was obtained for the latter sample concerning housing expenses, taxes, nontaxable income, number of dependents and extraordinary medical and childcare expenses to estimate necessary living expenses and repayment plans that could have been proposed by the chapter 7 sample.

#### A. Estimate of Repayment Schedule for Chapter 7 Sample

To be acceptable, repayment plans in chapter 13 must be feasible, in good faith, and provide equity to creditors. Estimating a repayment plan required specifications of future income and necessary living expenses.

Future income. Almost 80 percent of the sample of petitioners for chapter 7 listed at least one party who was employed full time at the time the petition was filed. To estimate future income, we used current income unless it was significantly lower than annual income reported on the bankruptcy petition for the year before the petition was filed. If it was significantly lower, but the petitioner did not indicate that the bankruptcy was attributable to loss of employment, income for the previous year was used as an estimate of current income. We assumed that income over the 36-month repayment period would remain at that constant level.

Basic Living Expenses. To estimate basic living expenses (BLE) we assumed petitioners for chapter 7 would retain their current residence and all related housing expenses, meet key extraordinary expenses and live

modestly above the poverty level base as defined by the Bureau of Census. We used the base level plus ten percent of nonhousing expenses plus actual housing expenses plus extraordinary expenses in the final calculation of necessary living expenses, Adjustments were made in the BLE estimates to reflect interregional and metropolitan-nonmetropolitan differences in the cost of living for low-income families. Estimates of Federal tax liabilities were based on the standard deduction and deductions for dependents.

Ability to Repay Debts. Federal taxes and basic living expenses were deducted from estimated permanent income to determine the monthly amount available to repay nonmortgage debts. Assuming a maximum repayment period of 36 months, we estimated the percent of nonmortgage debts paid in the repayment period (Exhibit 1).

Slightly more than half of the chapter 7 sample who provided data necessary to make the calculations could repay none of their nonmortgage debts out of income after living expenses, because their necessary living expenses equaled or exceeded income. In our earlier terminology, P, the present value of the "best effort" repayment plan, was equal to zero for this group and their choice of liquidation over continuance was socially efficient--the value of assets liquidated (L) in chapter 7 had to be greater than or equal to zero. The estimate of P was, greater than zero for the rest of the chapter 7 sample. In fact, almost 21 percent of the sample could have repaid 100 percent of their debts out of income in less than 36 months.

**EXHIBIT I  
SIMULATED REPAYMENT PLAN FOR  
CHAPTER 7 PETITIONERS**

<u>Percent of Debt Repayable Within 36 Months</u>	<u>N</u>	<u>Percent</u>
0%	526	52.0%
1-20%	72	7.1
21-40%	58	5.7
41-60%	56	5.5
61-80%	42	4.2
81-100%	48	4.7
Greater than 100%	210	20.8
Not ascertained*	127	--
	1,139	100.0%

SOURCE: Credit Research Center, 1981 Bankruptcy Study.

\*These respondents did not provide data necessary to estimate a repayment plan.

One might argue that the estimates of living expenses were too restrictive, thus providing a spurious view of the ability of the chapter 7 sample to repay their debts out of income. To address that issue the distributions of the estimates of living expenses and monthly debt payment as a percent of income for those in the sample of chapter 7 cases with some ability to repay their debts out of income, according to our estimate, were compared with those provided in the court-approved plans of the chapter 13 sample.

#### B. Comparison of Expenses and Repayment Schedules of Chapter 7 and Chapter 13 Samples

Ratio of Living Expenses to Pretax Income. For the chapter 13 sample, living expenses as specified by the petitioners were, on average, 75.6 percent of pretax income (Exhibit 2). About five out of every ten petitioners for chapter 13 indicated living expenses that were between 81 and 99 percent of before-tax income. With our definition of basic living expenses (BLE) for the chapter 7 sample (110 percent of nonhousing BLE plus actual housing expenses), the mean of the expenses-to-income ratio was 74.9 percent with almost 4.5 out of ten petitioners having living expenses that absorbed between 81 and 99 percent of pretax income.

Proportion of Nonmortgage Debts Repayable in Three Years. The average simulated annual debt payment calculated for the chapter 7 sample was 18.3 percent of pretax income relative to an average of 15.6 percent for the chapter 13 sample. About four percent of each sample had repayment plans with debt payments exceeding 40 percent of income. For each petitioner in each sample, a three-year payout period was assumed. For those who could repay 100 percent of allowed claims in less than three years, given their reported or calculated annual debt payment (for chapter 7, this was equal to annual after-tax income minus total living expenses), the simulated annual debt payment was equal to total debt divided by three years. The distributions of the proportion of debts repayable in three years for those chapter 7 petitioners for whom  $P > 0$  and for the chapter 13 sample are shown in Exhibit 3. The two distributions were statistically identical. Moreover, debtors were admitted to chapter 13 with repayment plans which provided for the repayment of approximately the same mean percentage of nonmortgage debts (66 percent) as was possible in the simulated plans for the chapter 7 sample (68 percent). One would expect repayment plans proposed by debtors in chapter 13 to be based on liberal estimates of necessary living expenses.<sup>9</sup> The fact that the distribution of the simulated payout ratios for the chapter 7 sample who could repay something out of income is not significantly different from that of the chapter 13 sample suggests that our estimates of necessary and extraordinary living expenses are reasonable.<sup>10</sup>

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<sup>9</sup> Assuming all other things constant, n dollars recovered under chapter 7 or chapter 13 goes to secured creditors. Thus, unsecured creditors will receive L-n or P-n. Consequently, the condition  $P \geq L$  satisfies the "good faith" requirement for an acceptable repayment plan.

<sup>10</sup> A recent study by the Government Accounting Office [1] found that 42 percent of petitioners for chapter 7 were very similar to petitioners for chapter 13 in terms of assets, debts and income.

**EXHIBIT 2**  
**COMPARISON OF ESTIMATED AND ACTUAL LIVING EXPENSES**

Living Expenses As a Percent of Pretax Income	<u>Chapter 7</u> Basic Living Expense + 10% Of Nonhousing Expenses	<u>Chapter 13</u>
0%	0	2.6
1-20	1.3	.5
21-40	1.3	1.5
41-60	12.9	7.9
61-80	40.9	36.1
81-99	43.7	51.4
	100.0%	100.0%
Mean of living expenses To pretax income	74.9%	75.6%

SOURCE: Credit Research Center, 1981 Bankruptcy Study.

C. Social Efficiency of the Bankruptcy Reform Act of 1978

The comparison of the liquidation value of the petitioners' estates and the present value of scheduled (or simulated) payments for the two groups of petitioners provided an estimate of the frequency of bankruptcy cases (chapter 7 and chapter 13) which do not provide the higher-valued recovery to creditors. The present value of the monthly debt payments (P) for each petitioner in both groups of petitioners was calculated using zero, one and two percent monthly discount rates. The new liquidation value (L) of estates of petitioners in each group was calculated by subtracting mortgage debt plus asset exemptions from the market value of total assets.

**EXHIBIT 3**  
**COMPARISON OF ESTIMATED AND ACTUAL PAYOUT RATIOS**

Percentage of Debt Repayable in Three Years	<u>Chapter 7</u> Basic Living Expense + 10% Of Nonhousing Expenses	<u>Chapter 13</u>
1-20%	11.9%	13.0%
21-40	15.7	12.9
41-60	11.7	12.8
61-80	10.9	17.2
81-99	49.7	43.9
Missing		0.1
	100.0%	100.0%
Mean percentage of debt Repayable in three years	68%	66%

SOURCE: Credit Research Center, 1981 Bankruptcy Study

Chapter 7. Even at a zero discount rate, the present value of the estimated monthly payments was less than the net liquidation value of the petitioner's estate for almost 60 percent of the petitioners under chapter 7 (Exhibit 4).<sup>11</sup> The choice made by those petitioners to liquidate was socially efficient in that the liquidation provided creditors with a greater recovery than would have been available had the petitioners filed under chapter 13. The present value of payments, P, was greater than the liquidation value of the estate, L, for about one-third of petitioners for chapter 7. These bankruptcies, by our definition, though legal, were not socially efficient. For the balance of the sample the present value of monthly payments and the liquidation value of assets were equal to zero.<sup>12</sup>

Chapter 13. About 75 percent of the petitioners for chapter 13 were scheduled to pay more to creditors under the reorganization plans approved by the court (assuming zero discount rate) than they would have if they had liquidated nonexempt assets under chapter 7. The balance of the sample had court-approved plans that allowed them to pay less than would have been paid under chapter 7. Under either chapter of the code, secured creditors are paid before unsecured creditors. With the assumption that secured creditors' allowed claims are the same under chapter 7 or chapter 13, P would have to be at least equal to L to satisfy the "good faith" requirement with regard to unsecured creditors. Thus, the repayment plans for about 25 percent of the chapter 13 sample did not satisfy one of the legal requirements for an approvable repayment plan ( $P > L$ ).

#### **EXHIBIT 4**

#### **ANALYSIS OF CREDITORS' RECOVERY UNDER BANKRUPTCY ALTERNATIVES**

	<u>Present Value of Payments &gt; Liquidation Value</u>	<u>Present Value of Payments = Liquidation Value<sup>1</sup></u>	<u>Present Value of Payments &lt; Liquidation Value</u>	<u>Total</u>
a. Zero monthly	discount rate for payments			
Chapter 7	31.7%	9.2%	59.1%	100%
Chapter 13	73.4	0	26.6	100%
b. Two percent	monthly discount rate for	payments		
Chapter 7	27.2	9.2	63.6	100%
Chapter 13	62.0	0	38.0	100%
c. Fifty percent	discount on liquidation value	with two percent monthly	discount rate for payments <sup>2</sup>	
Chapter 7	34.1	9.2	56.7	100%
Chapter 13	69.6	0	30.4	100%

SOURCE: Credit Research Center, 1981 Bankruptcy Study

<sup>1</sup> For chapter 7 sample, P was zero and L was negative for this group.

<sup>2</sup> Stanley and Girth [3] indicated that in cases where assets were actually sold by the trustee the members of the petitioner's family would frequently buy the assets. In those cases the proceeds realized from the sale were very low.

Impact of Reform. Proposed reform of the bankruptcy law would require a debtor to file conditionally under either chapter 7 or chapter 13. The debtor would then receive counseling from the bankruptcy trustee concerning his or her rights under both chapters. If the bankruptcy judge determined that a discharge would constitute a "substantial abuse" of the bankruptcy system, the judge would be allowed to dismiss a chapter 7

<sup>11</sup> All Petitioners for chapter 7, including those who could have repaid nothing out of income were included in this comparison. We found previously that 50 percent of the chapter 7 sample had  $P = 0$ .

<sup>12</sup> In some cases the value of exemptions exceeded the value of total assets. The maximum valued allowed exemptions were listed on the petition to reduce consequences of any challenges that might be made to the initial asset valuation by creditors.

case. With no definition of "substantial abuse," it is not clear whether this reform will reduce the incidence of socially inefficient bankruptcy. However, a case could be made for modifying the proposed reform to include a definition of "substantial abuse" as a choice that is socially inefficient. We estimate that about 30 percent of petitions for chapter 7 in 1981 represented socially inefficient decisions. Extrapolating our results to the population of debtors filing chapter 7 in 1981, had the above reform been in effect in 1981, bankruptcy losses of creditors in that year would have been \$600 to \$757 million lower (see Appendix A).<sup>13</sup>

Our analysis also raises question about the "good faith" of current repayment plans under chapter 13. The data suggest that the law with regard to chapter 13 is not being effectively enforced. We estimated that annual savings to creditors of petitioners for chapter 13 in 1981 would range between \$220 and \$270 million if those petitioners had been required to pay the greater of the liquidation value of nonexempt assets and the present value of their "best effort" repayment plan (see Appendix A).

#### IV. Conclusion

In Consumers' Right to Bankruptcy [3], it was shown that about 20 percent of a sample of petitioners for personal bankruptcy under chapter 7 of the Bankruptcy Reform Act could have repaid 100 percent of their nonmortgage debts out of income after living expenses within a three-year repayment period. Another 28 percent of the sample could have repaid some portion of their nonmortgage debts out of income. If petitioners for chapter 7 who could repay a reasonable portion of their debts out of income were required to do so, it was estimated that annual bankruptcy losses would be reduced by \$800 million to \$1.1 billion.<sup>14</sup> These data were presented in testimony in support of reform in the code which would have required petitioners for personal bankruptcy to file under chapter 13 if it was determined that they could repay a "reasonable portion of debts."

The goal of reform in bankruptcy legislation is to reduce the social cost of bankruptcy while maintaining provisions that provided a fresh start for debtors who have lost control of their financial affairs. In this paper we define socially efficient bankruptcy legislation as that which minimizes the present value of creditors' losses stemming from bankruptcy while providing consumers with sufficient assets or income to make a fresh start. To minimize creditors' losses, a petitioner would be required to choose that route to debt relief (chapter 7 or chapter 13) that would provide the higher valued payout to creditors.

We estimate that creditors of about 30 percent of petitioners who filed under chapter 7 of the code would have enjoyed lower costs (higher recovery) if those petitioners had been required to file under chapter 13. This would have provided a reduction in total bankruptcy losses to creditors in 1981 of between \$600 million and \$757 million per year. For the rest of chapter 7 petitioners, creditors would be indifferent or worse off if petitioners had filed under chapter 13. Creditors for about 25 percent of chapter 13 petitions would also have enjoyed a higher recovery if those petitioners had been required to file under chapter 7. These savings were estimated at about \$250 million per year.

The wording of proposed bankruptcy reform [S.445] would require that the judge be given sufficient information to reject petitions for liquidation that represent a "substantial abuse" of the bankruptcy system. The results of this study show that if "substantial abuse" were defined to eliminate those cases where the proceeds from the liquidation of assets was less than the present value of payments out of income after necessary living expenses, the social costs of chapter 7 bankruptcy would be reduced. The results of this study also suggest that all petitions, not just those for chapter 7, should be evaluated to reduce, the social costs of bankruptcy. A significant percentage of petitioners for chapter 13 could have paid more to creditors if they had been required to liquidate their estate rather than repay debts out of future income.

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<sup>13</sup> The simulated repayment schedules for the chapter 7 sample covered a maximum of three years.

<sup>14</sup> The estimate of 1.1 billion was based on a five-year repayment period.

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**APPENDIX A**  
**ESTIMATE OF COST REDUCTION FROM CHANGE IN**  
**BANKRUPTCY GUIDELINES**

Chapter 7

A. Zero monthly discount rate for payments

Present value of payments was greater than liquidation value of assets for 31.7 percent of the chapter 7 sample. The present value of payments exceeded liquidation value of assets by an average of \$10494.96 for that group. We extrapolated from that figure to get an estimate of the savings in social costs of bankruptcy that would be realized if social efficiency guidelines had been established in 1981 for chapter 7. That calculation is shown:

Estimate of number of chapter 7 cases in 1981 = 227,540  
Size of sample included in savings estimate = 775  
Percent of sample with P > L = 31.7%  
Average dollar value of savings-per petition = \$10494.96  
in group with P > L

National savings if those petitioners for chapter 7 with P > L were required to pay P rather than L:

$$\begin{aligned} &= \frac{227,540}{775} \times \frac{775(10494.96)}{1} \times 31.7\% \\ &= 293.6 \times 8,133,594 \times .317 \\ &= \$757.04 \text{ million} \end{aligned}$$

A. Two percent monthly discount rate, 50 percent discount of liquidation value

Savings if those petitioners for chapter 7 with P > L were required to pay P rather than L:

$$\begin{aligned} &= \frac{227,540}{775} \times \frac{775(7742.66)}{1} \times .341 \\ &= 293.6 \times 6,000,561.50 \times .341 \\ &= 600.77 \text{ million} \end{aligned}$$

## Chapter 13

### A. Zero monthly discount rate applied to payment stream

Estimated number of chapter 13 cases in 1981 = 87460

Estimate of savings per case -with L >P = \$11654.78

Percent of sample with L > P = 26.6%

Estimate of total savings:

$$= \frac{87460}{5040} \times \frac{5040(11654.78)}{1} \times .266$$

$$= 17.35 \times 58,740,091 \times .266$$

$$= \$271 \text{ million}$$

### B. Two percent of monthly discount rate, 50 percent discount of liquidation value

Savings if petitioners for chapter 13 with L >P were required to pay L rather than P:

$$= \frac{87460}{5040} \times \frac{5040(8302.2)}{1} \times .304$$

$$= 17.35 \times 41,843,692 \times .304$$

$$= \$220.69 \text{ million}$$

Total savings from chapter 7 and chapter 13

#### A. Zero discount rate, liquidation value equal to 100% of market value:

$$\$757.04\text{m} + \$271\text{m} = \$1.028 \text{ billion}$$

#### B. Two percent monthly discount rate, liquidation value equal to 50 percent of market value

$$\$600.77\text{m} + \$220.69\text{m} = \$821.46 \text{ million}$$

1. For comparison purposes we used the estimate of number of bankruptcies, adjusted for the incidence of joint filings, that was used in [3].