

Personal Bankruptcy Law: Abuse Prevention versus Debtor Protection¹

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“The need for bankruptcy reform is long over-due and crucial to our Nation’s economy and the well-being of our citizens. Every day that goes by without these reforms, more abuse and fraud goes undetected. America’s economy should not suffer any longer from the billions of dollars in losses associated with profligate and abusive bankruptcy filings.”
House Judiciary Committee Chairman F. James Sensenbrenner, Jr.

Introduction

Personal bankruptcy law has two major--and conflicting—economic objectives. One is to facilitate the operation of credit markets by providing a state-sponsored procedure for punishing default, determining defaulters’ ability-to-pay, and resolving debts. The other is to provide debtors with consumption insurance by forgiving some or all of their debt when their ability-to-pay is low. In the past, the punishment objective was dominant and bankrupts were treated as criminals; in various countries they were put to death, enslaved, dismembered, branded with a “T” for “thief,” or confined in debtors’ prisons (Efrat, 2006). Modern bankruptcy laws no longer treat bankrupts as criminals, but they still impose repayment requirements and other forms of punishment. Repayment requirements range from France’s requirement that bankrupts reduce themselves to a poverty-level standard of living for 10 years in order to repay, to the U.S. practice that—until 2005—did not require bankrupts to repay from earnings at all. Punishments also vary widely. In Britain, bankrupts are not allowed to borrow, manage a company, practice as a lawyer/solicitor, or hold public office for three years after filing (Efrat, 2006). In the U.S., punishment is milder, but bankrupts’ names are made public and the filing can be listed on their credit records for ten years, which can make it more difficult for them to obtain credit, rent an apartment, or get certain types of jobs.

The other objective of bankruptcy is to provide risk-averse debtors with partial consumption insurance. Debtors benefit from borrowing, since it allows them to smooth consumption and, sometimes, to open businesses. However borrowing makes debtors vulnerable to adverse shocks, since they may be required to repay at a time when their ability-to-pay is low. Bankruptcy reduces the cost of adverse shocks by providing a procedure for discharging some debt, which raises debtors’ consumption when it is low. This type of insurance is valuable because sharp reductions in consumption can be very

costly to debtors and their families--illnesses can turn into disabilities if debtors cannot pay for medical care, families may become homeless if debtors cannot pay rent, debtors may quit their jobs and move in order to avoid their creditors, and debtors' children may drop out of school in order to work, leading to lower earnings as adults. But when bankruptcy procedures provide a high level of debt forgiveness and require little repayment, some debtors file even when they have not experienced adverse shocks—behavior that I refer to as opportunistic.

The “Bankruptcy Abuse Prevention and Consumer Protection Act of 2005” (BAPCPA), which went into effect in October 2005, changed U.S. personal bankruptcy law from very pro-debtor to much more pro-creditor. BAPCPA was passed in response to a large increase in personal bankruptcy filings in the U.S., from 287,000 per year in 1980, to 718,000 in 1990, to around 1,500,000 per year in each of the years 2002-2004. (See table 1.) An important question is whether opportunistic behavior explains the rapid increase in the number of filings: did consumers learn that bankruptcy law was very pro-debtor and respond by borrowing more and filing for bankruptcy even when they could afford to repay? Creditors' groups used the opportunism argument to convince Congressional leaders that reform was needed because bankruptcy was being abused and, since BAPCPA went into effect, personal bankruptcy filings have in fact dropped sharply. But I argue here that BAPCPA mainly discourages bankruptcy filings by non-opportunistic debtors who file because their ability-to-pay has fallen. As a result, the adoption of BAPCPA is likely to increase the social cost of debt.

The paper starts by examining a model of the optimal personal bankruptcy procedure and exploring the basic tradeoffs that determine how much debt should be forgiven in bankruptcy and how much bankrupts should be required to repay. I then focus on U.S. bankruptcy law both before and after the adoption of BAPCPA, asking how it compares to the optimal personal bankruptcy procedure and whether it is effective in discouraging opportunism. I also discuss the market for credit card loans and how credit card loan pricing affects the optimal bankruptcy procedure. The final section considers

bankruptcy law in several other countries and what they suggest concerning a more economically efficient approach to U.S. bankruptcy reform.

The personal bankruptcy decision and optimal personal bankruptcy law

How do debtors make their bankruptcy decisions and how do the decisions of opportunistic versus non-opportunistic debtors differ? Assume that both types of debtors file for bankruptcy if doing so increases their utility, but each type is assumed to have a non-financial cost of filing—bankruptcy stigma—that represents their cost of bearing the punishment that society imposes on bankrupts. Opportunists have low stigma costs, so that they file for bankruptcy more often and they engage in strategic behavior that increases their gain from filing. Non-opportunists have high stigma costs, so that they file for bankruptcy less often and are less likely to anticipate bankruptcy or adjust their behavior to increase their gain from filing. In addition, some non-opportunists consider filing for bankruptcy only when they have experienced an adverse shock to their ability-to-pay, so that they do not always file when doing so is financially advantageous. (See Fay, Hurst and White, 2002, for evidence that debtors file more often when their financial gain is higher and when their earnings have fallen, which supports both types of behavior. See White, 1998, for evidence that not all debtors file when their financial gain is positive. Sullivan et al, 1989, discuss a non-economic view of the bankruptcy decision.)

Suppose all consumers borrow an amount B at interest rate r in period 1 and agree to repay $B(1+r)$ in period 2. Consumers' ability-to-pay each period equals the combined value of their assets plus their earnings in that period. In period 1, their earnings and assets are assumed to be fixed, but their earnings or assets in period 2 are uncertain. Period 2 is assumed to cover the entire loan repayment period. At the beginning of period 2, the uncertainty is resolved and consumers—who are now debtors—decide whether to file for bankruptcy. To keep the discussion simple, assume that debtors' work effort remains the same regardless of whether they file for bankruptcy and that each debtor is either an opportunist or a non-opportunist. (In a more general version of the model, debtors vary their work effort depending on whether they file and may also

shift between non-opportunistic and opportunistic behavior. See White, 2006.) Debtors who file for bankruptcy pay an out-of-pocket cost C , which includes lawyers' fees and filing fees, plus a stigma cost S_o or S_n , which includes the cost of reduced access to credit and all other non-financial costs of bankruptcy. The o and n subscripts denote opportunists and non-opportunists, respectively, where $S_o < S_n$. Non-opportunistic debtors are assumed to be risk averse, while opportunistic debtors may be either risk averse or risk neutral.

Now consider the bankruptcy system. If debtors file for bankruptcy, the "automatic stay" stops creditors' collection efforts and a fraction $0 < d < 1$ of debt is discharged during the bankruptcy process. The discharge proportion represents both the fact that certain types of debts are not discharged in bankruptcy and that the bankruptcy judge may have the power to discharge additional debt by shortening the repayment period (see the discussion below). Assets up to a value of X are exempt, but debtors must use all of their assets above X to repay. Earnings up to a value of Y are also exempt, but only a fraction m of earnings above Y is exempt, where $0 \leq m \leq 1$. $m = 1$ represents the "fresh start," where debtors have no obligation to repay from post-bankruptcy earnings.

Now consider opportunistic debtors' bankruptcy decision. If an opportunistic debtor avoids bankruptcy and repays the debt in full, her period 2 consumption will be $A + E - B(1 + r)$, where A denotes the debtor's period 2 assets and E denotes her period 2 earnings. (Individual-level subscripts are omitted.) If the debtor files for bankruptcy, her period 2 consumption will be $\min[A, X] + \min[E, Y + m(E - Y)] - (1 - d)B(1 + r) - C - S_o$. Because debtors' work effort is assumed to remain constant, they file for bankruptcy whenever doing so increases their consumption.

Figure 1 shows the opportunistic debtors' period 2 assets on the horizontal axis and their period 2 earnings on the vertical axis. The solid line encloses the asset/earnings region in which opportunistic debtors gain from filing. The gain region is divided into four sub-regions. In sub-region I, debtors' assets and earnings are both completely exempt, so that they gain from filing if the debt discharged in bankruptcy $dB(1 + r)$

exceeds their combined bankruptcy costs $S_o + C$. In sub-region II, debtors have non-exempt assets, so that they gain from filing if the value of debt discharged exceeds their combined bankruptcy costs plus the value of non-exempt assets $A - X$ that they must give up. There is a threshold level of assets, denoted \hat{A}_o , such that opportunistic debtors in region II file if their assets are below \hat{A}_o and not otherwise. In sub-region III, debtors have non-exempt earnings, so that there is a threshold level of earnings, denoted \hat{E}_o , such that they file if their earnings are below \hat{E}_o but not otherwise. Finally in sub-region IV, debtors must repay from both assets and earnings, so that the two thresholds trade off. Overall, opportunistic debtors' gain from filing for bankruptcy is inversely related to their ability-to-pay, which is both efficient and equitable.

Opportunistic debtors also use planning strategies to increase their gain from filing for bankruptcy. These include changing the form of their assets and/or earnings so that more are exempt in bankruptcy or changing the form of their debts so that more debt is discharged in bankruptcy. These strategies increase the values of X , Y and/or d , thus expanding the bankruptcy gain region for opportunistic debtors. (Examples of bankruptcy planning strategies are discussed below in connection with U.S. bankruptcy law.)

If the debtor is a non-opportunist rather than an opportunist, then the model changes in two ways. First, the stigma cost term increases from S_o to S_n , which reduces the size of the bankruptcy gain region in figure 1. The dashed line in figure 1 shows a smaller bankruptcy gain region for non-opportunists. Second, non-opportunistic debtors may not file for bankruptcy even when their assets and earnings place them in the financial gain region—some only file if they have also experienced an adverse shock. These differences imply that non-opportunistic debtors are less likely to file than opportunistic debtors and also that non-opportunists' bankruptcy decisions are less responsive to changes in the bankruptcy policy variables.

Suppose all consumers have the same assets and earnings in period 1. Some are opportunists and some are non-opportunists, but lenders are assumed unable to

distinguish between types. Also assume (temporarily) that the loan industry is competitive and lenders make zero profits. This means that lenders are willing to lend to all consumers as long as an interest rate exists that allows them to make zero expected profit as of period 1. If there are more opportunists in the debtor population or higher values of the bankruptcy policy variables d , X , Y , or m , then the interest rate is higher and there may be credit-rationing.

How does the bankruptcy system provide debtors with consumption insurance? Suppose the discharge proportion increases from d to d' . This raises all debtors' consumption in bankruptcy by $(d'-d)B(1+r)$, so that the gain regions in figure 1 become larger and more debtors of both types file. Creditors respond by raising the interest rate. These changes raise debtors' consumption in bankruptcy and lower their consumption outside of bankruptcy, thus providing them with additional consumption insurance. But the increase in d benefits opportunists more than non-opportunists, both because opportunists file more often and because their filing rate increases by more than that of non-opportunists. Increases in the exemption variables X , Y , and m also provide debtors with additional consumption insurance, but debtors only benefit from an increase in X if they have assets exceeding X (so that they are in sub-regions II or IV of figure 1) and they only benefit from an increase in Y or m if they have earnings above Y (so that they are in sub-regions III or IV of figure 1). Thus an increase in d has the advantage that it provides additional consumption insurance to the most needy debtors, while increases in the other policy variables mainly provide additional consumption insurance to opportunistic debtors. (Reductions in debtors' out-of-pocket cost of filing, C , have the same effect as increases in the value of d .)

Now suppose the model is generalized to allow debtors both to vary their period 2 work effort and to shift from opportunistic to non-opportunistic behavior, or vice versa. Then an increase in the value of m also causes debtors to work more in bankruptcy because they keep more of their marginal earnings (assuming that the substitution effect exceeds the income effect), causes debtors file for bankruptcy more often because their repayment obligation is smaller, and causes additional debtors to behave opportunistically. Increases in the other bankruptcy policy variables have less effect on work effort and on the amount of opportunistic behavior.

Now consider the optimal values of the bankruptcy policy variables (see White, 2006, for discussion). Suppose the median voter is a non-opportunist, so that the social welfare function considers only non-opportunistic debtors' preferences. Increasing the values of any of the bankruptcy policy variables d , X , Y , and m benefits debtors by providing them with additional consumption insurance, although—as just discussed—increases in d provide the most valuable insurance since debtors benefit even when their consumption is at its lowest level. But debtors pay more than the fair price for bankruptcy-provided consumption insurance, because lenders charge the fair price via the interest rate and debtors must also pay stigma and out-of-pocket bankruptcy costs when they file. As a result, the marginal value of additional consumption insurance declines as the insurance level rises and the optimal values of the policy variables are likely to be lower than their maximum values. The optimal values of all four policy variables are higher if non-opportunistic debtors are more risk-averse, if fewer debtors are opportunists, and if the level of opportunism is not highly responsive to increases in the values of the policy variables. The optimal values of the earnings exemptions m and Y are also higher if debtors' post-bankruptcy work effort is highly elastic to changes in the exemption levels and lower if the obligation to repay from post-bankruptcy earnings strongly discourages opportunism.

Wang and White (2000) simulated a bankruptcy system similar to the one discussed here. In their model, Y was assumed to be zero and d was assumed to be one, so that only m and X could vary. Debtors' work effort was allowed to vary depending on whether they file for bankruptcy and the number of opportunists was also allowed to vary depending on the gain from opportunistic behavior. Wang and White were particularly interested in determining under what conditions the “fresh start” for debtors ($m = 1$) is the optimal bankruptcy policy. Their results showed that, if there were few opportunists, then $m = 1$ and the fresh start is economically efficient, but when the level of opportunism increased, the optimal value of m fell to 0.93. This is because imposing a “bankruptcy tax” on debtors' post-bankruptcy earnings is effective in discouraging opportunism, since opportunists pay the tax more often than non-opportunists. However Wang and White never found that a value of m below .93 was optimal, which suggests that setting m equal to 0—as many countries do—is extremely inefficient. Also the

optimal value of the asset exemption X was always below the maximum level at which credit markets function. Finally, Wang and White found that the various bankruptcy policy parameters are substitutes, so that the optimal policy involves setting one bankruptcy policy variable at a high level in order to provide consumption insurance, while setting the other policy variable at a lower level to discourage opportunism.

U.S. bankruptcy law pre-BAPCPA

Now turn to U.S. personal bankruptcy law. I discuss bankruptcy law pre-BAPCPA in this section and the changes under BAPCPA in the next section.

Pre-BAPCPA bankruptcy law U.S. bankruptcy law prior to BAPCPA differed from the optimal bankruptcy procedure in that there were (and still are) two separate bankruptcy procedures, called Chapters 7 and 13, and debtors had the right to choose between them. Under Chapter 7, debtors were obliged to repay only from non-exempt assets, so that $m = 1$ and $Y = \infty$; while under Chapter 13, debtors were obliged to repay only from non-exempt earnings, so that $X = \infty$. Most unsecured debt was discharged under both procedures, but student loans, debts incurred shortly before filing and debts incurred by fraud were not. Debtors' out-of-pocket bankruptcy costs C were low—less than \$1,000 for lawyers' fees and filing fees. These features made U.S. bankruptcy law very pro-debtor, since debtors could choose to repay from whichever source they didn't have! They also meant that debtors' obligation to repay in bankruptcy had little relationship to their ability-to-pay, since debtors' ability-to-pay comes primarily from their earnings, but most bankruptcy filers filed under Chapter 7.

Asset exemptions in Chapter 7 were (and still are) set by the state in which the debtor lives. The most important exemption in most states is the "homestead" exemption for equity in owner-occupied homes. It varies widely, from zero in two states to unlimited in Texas, Florida, the District of Columbia, and several other states (Elias, 2005). An additional 20 states allow debtors an unlimited homestead exemption if they are married, own their homes in "tenancy by the entirety," and only one spouse files for bankruptcy. The variation in asset exemptions implies that debtors' gain from filing for bankruptcy varies widely depending on where they live, their marital status, whether they own homes, and whether they plan strategically for bankruptcy.

Debtors who filed under pre-BAPCPA Chapter 13 were obliged to propose plans to repay part or all of their debt from post-bankruptcy earnings over three to five years. While some debtors proposed to repay substantial amounts, many proposed to repay an amount equal to the value of their non-exempt assets in Chapter 7 if they had non-exempt assets or a token amount otherwise. Debtors were not allowed to repay less and they had no incentive to offer more. Only the approval of the bankruptcy judge--not creditors--was required. Bankruptcy judges often accepted Chapter 13 plans that proposed to repay very little, since most debtors otherwise could shift to Chapter 7 and repay nothing. This meant that most debtors' financial gain from filing for bankruptcy under Chapter 13 was the same as their gain from filing under Chapter 7.

Chapter 13 also included some special features that allowed additional debt to be discharged—known as the “super-discharge.” Debtors could delay foreclosure of their homes by filing under Chapter 13 and their car loans could be discharged to the extent that the loan principle exceeded the car's market value. Also, debts incurred by fraud and cash advances obtained shortly before filing could be discharged only in Chapter 13. These features meant that, for some debtors, the financial gain from filing under Chapter 13 was higher.

The bankruptcy decision pre-BAPCPA. Suppose d^p , X^p and C^p denote the discharge proportion, the asset exemption, and bankruptcy costs under pre-BAPCPA Chapter 7, where the p superscripts indicate “pre-BAPCPA” values. Consider opportunistic debtors' bankruptcy decision first. Their period 2 consumption level if they file under Chapter 7 is $\min[X^p - A, 0] + E - (1 - d^p)B(1 + r) - S_o - C^p$ and their consumption level if they avoid bankruptcy is $A + E - B(1 + r)$. If they have non-exempt assets, then the threshold level of assets at which they are indifferent between filing or not filing for bankruptcy, denoted \hat{A}_o^p , must satisfy:

$$d^p B(1 + r) = \hat{A}_o^p - X^p + C^p + S_o. \quad (1)$$

Here, the value of debt discharged in bankruptcy just equals the value of non-exempt assets that debtors must give up plus their combined costs of filing. Opportunistic debtors file for bankruptcy if their assets are below \hat{A}_o^P .

Opportunistic debtors also used several well-known pre-BAPCPA planning strategies to increase their financial gain from bankruptcy. These included obtaining new credit cards and charging as much as possible on old and new cards (subject to limits on dischargeability of debt incurred shortly before filing), converting non-exempt assets into exempt home equity by paying down their mortgages or renovating their homes (if the additional home equity would be exempt under the state's homestead exemption), sheltering non-exempt assets in "asset protection trusts," and/or moving to states that have unlimited homestead exemptions or allow "tenancy by the entirety." Opportunistic debtors could also file first under Chapter 13 and then under Chapter 7—a strategy known as filing a "Chapter 20." The Chapter 13 filing gave debtors the benefit of the Chapter 13 super-discharge; while shifting to Chapter 7 allowed them to avoid using post-bankruptcy earnings to repay unsecured debt. These planning strategies raised the value of \hat{A}_o^P and made it more attractive for opportunistic debtors to file.

Figure 2 shows opportunistic debtors' bankruptcy gain region as the area to the left of the solid line at \hat{A}_o^P . Because the earnings exemption in Chapter 7 was unlimited, the gain region has no height limit--debtors gained from filing for bankruptcy regardless of how much they earned. In addition, following bankruptcy planning strategies pushed \hat{A}_o^P to the right and therefore allowed opportunistic debtors to gain from filing even if they had very high asset levels. Opportunistic debtors thus could gain from bankruptcy pre-BAPCPA with both high earnings and high assets.

Now consider non-opportunistic debtors. Their bankruptcy gain region is determined in the same way, except that their stigma costs are higher and they do not make use of bankruptcy planning strategies. This means that they gained from filing for bankruptcy if their period 2 assets turned out to be below \hat{A}_n^P , where $\hat{A}_n^P < \hat{A}_o^P$. Figure 2 shows non-opportunistic debtors' smaller bankruptcy gain region as the area to the left of the dashed line. In addition, some non-opportunistic debtors avoided filing for

bankruptcy even when their assets and earnings put them in the gain region, while others filed under Chapter 13 and promised to repay most or all of their debts (but debtors rarely completed these plans).

Overall, the consumption insurance role of bankruptcy was severely undermined by the fact that opportunistic debtors could gain from filing even when their ability-to-pay was extremely high. Pre-BAPCPA bankruptcy law encouraged debtors to behave opportunistically and harmed non-opportunistic debtors by reducing the availability of credit, particularly in high-exemptions states such as Texas and Florida (Gropp, Scholz and White, 1997, and Berkowitz and White, 2004). However pre-BAPCPA bankruptcy law had the advantages that it did not distort debtors' work effort decisions (Han and Li, 2004) and, by reducing downside risk, it encouraged workers to become self-employed (Fan and White, 2003).

Empirical evidence concerning opportunistic behavior. The major credit card lenders lobbied heavily for bankruptcy reform on the grounds that most pre-BAPCPA bankruptcy filers were opportunists who borrowed without intending to repay and harmed other borrowers by filing when they had not experienced an adverse shock. What evidence is available to support these claims? Warren (2003) asked a sample of bankruptcy filers what caused them to file and found that 68% of filers had experienced an adverse shock in the form of job loss, illness/injury, forced relocation, or a decline in income. Her results suggest that the remaining debtors who did not experience adverse shocks are opportunists, or about one-third of all bankruptcy filers. Another form of evidence concerning opportunism is studies that have estimated the proportion of bankruptcy filers that could afford to repay a substantial proportion of their unsecured debt. Barron and Staten (1997) found a figure of about one-third. But other authors disputed the Barron and Staten results and argued that only a few percent of bankruptcy filers could afford to repay (see Culhane and Micaela White, 1999, and Flynn and Bermant, 2000).

Overall these studies suggest that the proportion of debtors who are opportunists could be as low as 3% or as high as one-third. One reason for the ambiguity is that many debtors probably qualify as both types. They decide to file for bankruptcy because their

earnings fall, but before filing they re-arrange their assets so as to increase their financial gain.

U.S. bankruptcy law post-BAPCPA

Changes in bankruptcy law under BAPCPA. BAPCPA retained the dual-procedure structure of U.S. bankruptcy law, with debtors still obliged to repay only from assets in Chapter 7 and only from earnings in Chapter 13. But it abolished debtors' right to choose between the two procedures and substituted a new "means test" to determine whether debtors are allowed to file under Chapter 7. Debtors whose earnings are too high for Chapter 7 must file under Chapter 13, where a complicated new procedure determines how much they must repay from post-bankruptcy earnings.

The BAPCPA means test is based on debtors' average monthly earnings during the six-month period prior to filing. Since we previously defined period 2 to cover the entire repayment period and the BAPCPA repayment period is 5 years, multiply debtors' average monthly earnings prior to bankruptcy by 60 to get pre-bankruptcy earnings over 5 years, denoted PE . Debtors are allowed to bypass the means test and file under Chapter 7 if $PE < 60MFI$, where MFI is the median monthly family income level in the debtor's state of residence (adjusted for the debtor's family size). Define Y^b to be the fixed dollar earnings exemption over the 5 year repayment period, where the b superscript indicates values under BAPCPA. (How Y^b is determined is discussed below.) Debtors pass the means test if their non-exempt earnings $PE - Y^b$ over the 5 year period are less than \$6,000 (\$100 per month). Combining these conditions, debtors qualify to file under Chapter 7 if:

$$PE \leq \max[60MFI, Y^b + 6,000]. \quad (2)$$

Suppose $MAX7$ denotes the maximum level of earnings at which debtors qualify for Chapter 7—the right hand side of condition (2).

Suppose a debtor passes the means test and files under Chapter 7. Chapter 7 under BAPCPA is similar to the pre-BAPCPA procedure, since the same state-specific asset exemptions remain in effect and debtors are only obliged to use their non-exempt assets

to repay. But BAPCPA introduced new restrictions on when debtors are allowed to use their states' asset exemption. If debtors move to a new state less than two years before filing, then they must use the homestead exemptions in their old states and, if they purchase a house less than 2½ years before filing, then their homestead exemption is capped at \$125,000. If debtors convert non-exempt assets into home equity by paying down their mortgages or renovating their homes, they must do so at least 3 1/3 years or 10 years, respectively, before filing—otherwise the additional home equity will not be exempt (Martin, 2006). But BAPCPA still allows debtors to use asset protection trusts and tenancy by the entirety. BAPCPA also provided a valuable new asset exemption for up to one million dollars in tax-sheltered individual retirement accounts (two million dollars for married couples who file for bankruptcy). Suppose the Chapter 7 asset exemption under BAPCPA is denoted X^b . For individual debtors, X^b may be either higher or lower than X^p .

Now suppose debtors fail the means test and file under Chapter 13. BAPCPA abolished debtors' right to propose their own repayment plans--instead they are required to repay the fixed amount $PE - Y^b$. Debtors' consumption during the Chapter 13 repayment period is therefore $E - PE + Y^b$, or the difference between post-bankruptcy and pre-bankruptcy earnings plus the fixed earnings exemption. Because debtors keep all of their post-bankruptcy earnings at the margin ($m = 1$), their post-bankruptcy work incentives in theory are undistorted. But debtors' pre-bankruptcy work incentives are strongly distorted (see below), and if their earnings are lower after the bankruptcy filing ($E < PE$), then their consumption during the repayment period might be so low that they prefer to stop working completely.

Now turn to the earnings exemption under BAPCPA, Y^b . Y^b is determined by adding three sets of consumption allowances. The first set covers housing, transport, utilities, food, apparel and personal care and specifies a fixed dollar maximum allowance for each. The housing/utilities allowance depends only on the cost of housing in the debtor's metropolitan area, the transport allowance depends on the number of cars the debtor owns and the average cost of owning/operating non-luxury cars, and the food, apparel and personal care allowances vary slightly with earnings. These allowances are

based on IRS procedures for collecting from delinquent taxpayers. They are intended to force well-off debtors either to sharply reduce their consumption or lose their homes, perhaps because the IRS believes that delinquent taxpayers often have hidden assets. The second set of allowances covers debtors' expenditures on income taxes, court-ordered child support payments, childcare costs, term life insurance, uninsured health care costs, and several other categories and is also based on IRS procedures. While these allowances cover debtors' actual expenditures rather than maximum spending limits, most of the covered expenses are outside of debtors' control. Finally, a third set of allowances is not based on IRS procedures and covers debtors' actual expenditures on health and disability insurance, contributions to elderly or disabled family members, additional home energy costs, home security costs, charitable contributions, telecommunications, contributions to tax-sheltered retirement plans, and the cost of repaying secured debt. (See www.usdoj.gov/ust/eo/bapcpa/meanstesting.htm.) Assume temporarily that Y^b is a fixed dollar amount (but opportunistic debtors' incentive to spend more on these categories is discussed below).

BAPCPA also greatly raised debtors' costs of filing for bankruptcy. Debtors are now required to take a credit counseling course before filing and a financial management course before receiving a discharge. They must file detailed financial information with the bankruptcy court, including copies of their tax returns and wage stubs--even if they did not file tax returns. Bankruptcy lawyers must certify the accuracy of all the information filed and lawyers can be fined if any of information is found to be false or inaccurate. These new requirements were predicted to raise the combined cost of lawyers' fees and filing fees to nearly \$3,000 (Elias, 2005). These changes mean that C^b greatly exceeds C^P .

BAPCPA also eliminated the Chapter 13 super-discharge and lengthened the periods before filing during which cash advances and some credit card loans are non-dischargeable. These changes mean that the fraction of debt discharged in bankruptcy is lower under BAPCPA, or $d^b < d^P$. Finally, BAPCPA also increased the minimum time periods that must elapse between bankruptcy filings--from 6 to 8 years for Chapter 7, from 6 months to 2 years for Chapter 13, and from no minimum to 4 years for a

Chapter 13 filing followed by a Chapter 7. These changes imply that fewer debtors are eligible to file for bankruptcy.

The bankruptcy decision under BAPCPA. First consider opportunistic debtors' bankruptcy decisions under BAPCPA. They are allowed to file under Chapter 7 if they pass the means test, which requires that condition (2) holds, or $PE \leq MAX7$. They gain from filing under Chapter 7 if their period 2 assets are below a new asset threshold, denoted \hat{A}_o^b , which is determined by the condition $d^b B(1+r) = \hat{A}_o^b - X^b + C^b + S_o$. The lower rectangle in figure 3a shows the region in which opportunistic debtors both qualify to file under Chapter 7 and gain from filing. Note that pre-bankruptcy earnings PE , rather than post-bankruptcy earnings E , are now on the vertical axis in figure 3a.

Now turn to opportunistic debtors' decision to file under Chapter 13. Their consumption in Chapter 13 is $E - (PE - Y^b) + A - (1 - d^p)B(1+r) - C^b - S_o$, while their consumption outside of bankruptcy is $E + A - B(1+r)$. Therefore they gain from filing under Chapter 13 if $PE \leq Y^b - C^b - S_o + d^p B(1+r)$. Suppose the right hand side of this expression is denoted $MAX13$ —the maximum earnings level at which debtors gain from filing under Chapter 13. Assuming that $MAX13$ exceeds $MAX7$, there is a region $MAX7 \leq PE \leq MAX13$ in which opportunistic debtors cannot file under Chapter 7, but gain from filing under Chapter 13. Also, debtors who file under Chapter 13 are not allowed to repay creditors less than they would receive in Chapter 7, which means that debtors gain from filing under Chapter 13 only if their assets are below the Chapter 7 threshold \hat{A}_o^b . Putting these conditions together, the upper rectangle in figure 3a is the bankruptcy gain region for opportunistic debtors filing under post-BAPCPA Chapter 13. As shown, the figure assumes that debtors always prefer Chapter 7 over Chapter 13.

Now consider what strategies opportunistic debtors can use under BAPCPA to increase their gain from filing. One strategy involves opportunistic debtors working less during the 6 month period before filing, so as to reduce their pre-bankruptcy earnings PE . Suppose opportunistic debtors reduce their earnings by \$100 per month during the 6 month period. While this lowers their pre-bankruptcy consumption by \$600, it lowers

their obligation to repay in Chapter 13 by \$6,000—for a 10:1 return! The strong incentive for debtors to reduce their pre-bankruptcy earnings persists to the point that they pass the means test and qualify to file under Chapter 7.

Opportunistic debtors can also avoid Chapter 13 by altering their spending patterns, since additional spending on certain categories increases the earnings exemption Y^b dollar-for-dollar. To get a sense of how generous Y^b is and how much it can be manipulated by opportunistic debtors, I first calculated it for hypothetical debtors in three states, assuming that all their spending falls within the first and second sets of consumption allowances. (See White, 2007). I found that the resulting earnings exemptions ranged from about 5% below the median family income level in high-income states such as Connecticut to about 20% above the median family income level in low-income states such as West Virginia. Then I recalculated Y^b , assuming that debtors increase their spending on categories covered by the third set of consumption allowances. The additional expenditures included debtors buying homes with mortgages or obtaining new mortgages on their existing homes, buying a second car or a new car with car loans, buying health insurance, setting up individual retirement accounts, and contributing to charity. I found that by spending on these categories, opportunistic debtors could raise Y^b to a level equal to at least twice the median family income level. As a result, they can qualify for Chapter 7 even if their earnings are as high as the 90th percentile of the U.S. income distribution.

Strategies that lower PE or raise Y^b increase the values of both $MAX7$ and $MAX13$, so that they increase the height of both the Chapter 7 and Chapter 13 gain regions in figure 3a. As a result, opportunistic debtors are more likely to qualify for Chapter 7 and gain more from filing under both chapters. Another strategy that opportunistic debtors can use to qualify for Chapter 7 is to own or start a business before filing, since BAPCPA exempts debtors from the means test if their debts are “not primarily consumer debts.” These debtors are allowed to file under Chapter 7 at any PE level.

Now suppose opportunistic debtors qualify to file under Chapter 7 and consider strategies that increase the value of the asset exemption X^b . BAPCPA closed off some

of the most popular pre-BAPCPA asset planning strategies—debtors can no longer pay down their mortgages or renovate their kitchens or move to high-exemption states before filing, unless they do so far in advance of their bankruptcy filings. The “Chapter 20” strategy has also been closed off. However debtors can still use Texas’ and Florida’s high homestead exemptions if they already live there and they can still use tenancy by the entirety and asset protection trusts to shelter assets in Chapter 7 (a bill recently introduced in Congress to limit use of asset protection trusts in bankruptcy is titled the “Billionaire’s Loophole Elimination Act”). Also, the new exemption for individual retirement accounts allows debtors to shelter high levels of additional assets in Chapter 7. While there are limits on the amounts that can be contributed to these accounts each year, many debtors qualify for multiple types of accounts, so their aggregate contribution limits are high. The limits are particularly high for self-employed debtors. Using these strategies increases the width of opportunistic debtors’ gain regions in figure 3a, so that they gain from filing for bankruptcy at higher asset levels.

Now turn to non-opportunists. They are assumed to make their bankruptcy decisions in the same way, but their stigma costs are higher and they do not use bankruptcy planning strategies to increase their financial gain. Their bankruptcy gain region, enclosed by the dashed lines in figure 3b, is smaller than that of opportunistic debtors.

If we compare the pre-BAPCPA gain regions in figure 2 with the post-BAPCPA gain region in figures 3a and 3b, the adoption of BAPCPA improved both efficiency and equity by imposing a maximum limit on the earnings at which debtors gain from filing for bankruptcy. But the comparison of figures 2 and 3b suggests that BAPCPA harmed non-opportunistic debtors by greatly increasing bankruptcy costs, which reduced both the height and width of their gain region. Many non-opportunistic debtors probably will avoid filing for bankruptcy under BAPCPA simply because they cannot afford the high costs of filing. These debtors will take the alternative route of defaulting, having their wages garnished, and perhaps quitting their jobs and moving to avoid their creditors. In contrast, the comparison of opportunistic debtors’ pre- versus post-BAPCPA gain regions in figures 2 and 3a suggests that BAPCPA is less likely to discourage filings by opportunists. Opportunists can still gain from filing for bankruptcy even with high asset and earnings levels, although under BAPCPA they need to start planning for bankruptcy

earlier. Overall, BAPCPA mainly discourages bankruptcy filings by the worst-off debtors.

Early evidence on BAPCPA. As shown in table 1, bankruptcy filings fell from an annual rate of 1.5 million in 2002-04 to an annual rate only 500,000 during the first half of 2006. (The filing rate of 2 million in 2005 mainly reflects a rush by debtors to file before BAPCPA went into effect.) During BAPCPA's first year of operation, about 5% of bankruptcy filers had earnings above the median level in their states, compared to 15% before BAPCPA went into effect (Clifford White, 2006). If we assume that the bankruptcy filers with the highest earnings are the opportunists, then these figures suggest that, during its first year of operation, BAPCPA discouraged 200,000 opportunists from filing, but it also discouraged 800,000 non-opportunists. While discouraging opportunism increases economic efficiency, the cost of doing so was high.

BAPCPA and the market for credit card loans.

Credit card loans are important for bankruptcy policy, both because they have grown rapidly and because they constitute half of all unsecured debt in bankruptcy (Flynn and Bermant, 2003/2004). Between 1990 and 2005, per capita credit card debt in the U.S. nearly tripled from \$960 to \$2,700 and, in 2005, the average U.S. household received 45 solicitations for new credit cards. The supply of credit card loans has increased because of the rise of credit bureaus that gather financial information on households, computerized credit scoring models that evaluate borrowers' risk, and securitization of credit card debt—all innovations that lower lenders' costs (Moss and Johnson, 1999). Contrary to the model discussed above, the market for credit card loans in the U.S. is not perfectly competitive--about 10 large lenders dominate the credit card industry (Mann, 2007).

Another feature of credit card loans that makes them particularly important for bankruptcy policy is that, unlike other types of loans, lenders have the right to change the terms of credit card loans at any time. Typically, lenders compete by offering very favorable terms to new customers—including zero annual fees, low or zero introductory interest rates, and rewards such as cash back or frequent flier miles for charging more.

Lenders lose money on new customers, but offset these losses by charging high penalty fees when debtors pay late or exceed their credit limits and by drastically raising interest rates when debtors charge too much or make only the minimum monthly payment-- penalty fees of \$40 and penalty interest rates of 30% are common. Lenders also set very low minimum monthly payments--1% of the principle plus interest and fees for the previous month is common--so that debtors who make only the minimum payment each month repay very slowly and pay large amounts of interest.² Lenders make a high fraction of their profits from these debtors. During the 1990's, increased competition among credit card lenders caused introductory terms to become more attractive, while penalty fees and interest rates rose sharply (Evans and Schmalensee, 1999). These trends have continued during the past 5 years.

A third feature of credit card loans is that lenders have an inefficiently high incentive to offer cards to debtors who already are heavily indebted. This is because all credit card loans have equal priority, so that the latest lender gets its return mainly at the expense of earlier lenders.

Going back to the model, all consumers were assumed to be identical as of period 1 and all received loans on the same terms. But in period 2, they have different draws on ability-to-pay. Suppose debtors with high ability-to-pay pay their credit card bills on time and in full each month, so that they do not pay any interest or fees. But debtors with low ability-to-pay make only minimum payments each month and sometimes pay late, which means that lenders charge penalties and raise their interest rates. Thus the pattern of pricing of credit card loans increases the variance of debtors' period 2 consumption, since loan costs are low for debtors who have good draws on period 2 ability-to-pay and high for debtors who have bad draws. In addition, behavioral economists argue that debtors underestimate how much they will use their credit cards and discount the possibility of adverse events. The favorable introductory terms thus cause debtors to accept additional cards, which means they spend more and are more likely to pay penalty

² Suppose a debtor borrows \$2000 on a credit card at an interest rate of 28%, with a late fee of \$39 and a minimum monthly payment equal to 1% of the principle plus monthly interest and fees. The debtor is assumed to make the minimum payment each month and pays late twice a year. At the end of 5 years, the debtor would still owe 55% of the original loan principle. Under another commonly-used practice of setting the minimum monthly payment at 2.5% of the total amount owed, the principle increases over time.

fees and high interest rates (Ausubel, 1991, and Bar-Gill, 2004). But borrowing more on credit cards increases the variance of debtors' period 2 consumption yet further, since the negative effect of a bad draw on period 2 purchasing power is magnified. Overall, credit card pricing practices make risk-averse debtors worse off by increasing the variance of consumption.

Prior to BAPCPA, debtors who experienced a bad draw on period 2 purchasing power could easily file for bankruptcy, which increased their consumption levels when adverse events occurred. But under BAPCPA, fewer debtors are eligible to file for bankruptcy, while those who file must pay nearly \$3,000 in bankruptcy costs and less of their debt is discharged. Thus the adoption of BAPCPA reduced the availability of bankruptcy-provided consumption insurance just at a time when the changing pattern of credit card pricing has made it more valuable to debtors. The result is that debtors' minimum consumption levels will be lower under BAPCPA and the social costs of debt will rise.

Bankruptcy Laws in Other Countries

Now turn to personal bankruptcy laws in France, Germany and Canada. Like the U.S., all three countries have experienced large increases in consumer debt levels and bankruptcy filing rates over the past 10 to 20 years. See table 1. Neither France nor Germany had a personal bankruptcy law before the 1990's, but all three countries have adopted or changed their personal bankruptcy laws. In this section I consider how their bankruptcy laws compare to U.S. bankruptcy law and what they suggest concerning how the efficiency of U.S. bankruptcy law could be improved.

Table 2 lists characteristics of bankruptcy laws for all four countries. In addition to the four bankruptcy policy variables already discussed, table 2 also compares debtors' out-of-pocket bankruptcy costs, the length of the required earnings repayment period, and whether debt is discharged automatically at the end of the repayment period or the bankruptcy judge has the power to deny or delay the discharge.

All three countries' bankruptcy procedures are broadly similar to the optimal bankruptcy procedure discussed above. All have a single bankruptcy procedure that requires debtors to repay from both assets and post-bankruptcy earnings. All have simple formulas for determining their fixed asset and earnings exemptions—earnings

exemptions depend mainly on debtors' family size and location within the country. Debtors are obliged to use all of their non-exempt assets and a fixed fraction of their non-exempt earnings to repay for a fixed number of years. Most countries discharge some debt at the time of filing or during the repayment period—for example, France discharges loans made to debtors when they were already “over-indebted.” In addition, whatever debt remains after debtors have met their repayment obligation for the prescribed number of years is discharged. Debtors' out-of-pocket cost of filing for bankruptcy is lower in all three countries than in the U.S. But although the three countries' bankruptcy laws are close in form to the optimal bankruptcy procedure, their laws could nonetheless be inefficient if the values of the bankruptcy policy variables are far from the optimal levels.

Consider French bankruptcy law first (see Kilborn, 2005). French asset and earnings exemptions are very low. Debtors are allowed to keep only basic household goods and they must give up owner-occupied homes and all non-exempt assets. The fixed earnings exemption covers only a poverty-level standard of living of \$6,000 for single debtors and \$13,000 for a family of four with a single earner. Non-exempt earnings are subject to a repayment requirement that quickly increases from 5% to 100% of earnings that exceed \$25,000 for a single person and \$28,000 for a family of four with a single earner. The repayment period is extremely long--8 to 10 years—and, at the end of the period, the bankruptcy judge may deny the discharge if the debtor has shirked. Because repayment requirements are so high, most plans fail. France also has an informal Chapter 7-like bankruptcy procedure in which all of a debtor's debts are discharged immediately, on the grounds that the debtor cannot realistically repay anything even over 10 years. (Debtors are still required to use their non-exempt assets to repay, if they have any.) This procedure is used in about 14% of French bankruptcy filings and bankruptcy trustees recommend it in many more. France also has a high rate of repeat bankruptcy filings—around 30%. Harsh repayment plans give bankrupts an incentive to stop making payments and file for bankruptcy again, because a new filing

gives them a fresh chance of receiving an immediate discharge. Since debtors' out-of-pocket cost of filing is zero in France, they can afford to file repeatedly.³

Thus French bankruptcy law provides bankrupts with a consumption insurance lottery. Most debtors receive a very low level of insurance—they must reduce their consumption to a very low level for a very long period of time while continuing to work in order to receive a discharge. But a few debtors receive a high level of insurance, since all of their debts are discharged immediately and they have no repayment obligation. Because the French social safety net guarantees a higher minimum standard of living than in the U.S., the need for bankruptcy-provided consumption insurance is lower than in the U.S. But the fact that the bankruptcy system is a lottery reduces its value to risk-averse debtors. The French bankruptcy system has the advantage that it strongly discourages debtor opportunism, since few debtors would choose to be subject to its harsh repayment requirements. But those debtors who do end up in bankruptcy have strong incentives to quit their jobs, move, or at least not seek better jobs during the long repayment period. French debtors also have a strong incentive to avoid self-employment, since the consequences of business failure are dire.

German bankruptcy law is similar to the French bankruptcy system, but is somewhat more debtor-friendly and it treats debtors more uniformly (Kilborn, 2004). The earnings exemption is higher than a poverty-level standard of living (see table 2) and the repayment period is shorter--6 years rather than 8 to 10. Debtors are still obliged to use all of their non-exempt assets and earnings to repay and, if they receive inheritances during the repayment period, half must be used to repay. But debtors who repay as scheduled receive periodic bonuses that discharge up to 25% of their debt. Because exemption levels are higher than in France, most bankrupts have no non-exempt assets or earnings and therefore are not obliged to repay anything. Nonetheless, they must make their best efforts to find and hold a job and must wait for the end of the six year period to receive a discharge—which the judge may withhold for shirking. There is no second bankruptcy procedure in Germany, so that debtors do not face uncertainty concerning

³ Both the debtor and creditors in France must agree to the repayment plans, but French bankruptcy trustees have the exclusive right to propose repayment plans. About 70% of plans are accepted. See Kilborn (2005).

how they will be treated. Thus while German bankruptcy law treats debtors more favorably than French bankruptcy law, it is still extremely pro-creditor.

Canadian bankruptcy law has about the same fixed earnings exemption level as German bankruptcy law and higher asset exemptions, but it differs from French and German law in requiring that debtors use only half of their non-exempt earnings to repay (rather than 100%) and in having a short repayment period of 9 or 21 months. These provisions encourage work effort by debtors—at least in comparison to the other countries.

Overall, all three countries' personal bankruptcy laws are closer in form to the optimal personal bankruptcy procedure than U.S. bankruptcy law, since they all require debtors to repay from both assets and earnings. This aligns debtors' obligation to repay more closely with their ability-to-pay, since those with high earnings or high assets cannot completely avoid repaying their debts. All three countries' asset and earnings exemptions are determined by simple formulas that—in contrast to the U.S. practice--do not encourage opportunistic behavior by debtors. But French and German exemption levels are extremely low, so that they provide debtors with little consumption insurance. French and German bankruptcy laws also discourage debtors from working post-bankruptcy and from starting businesses, since they impose a 100% repayment tax on marginal earnings. The U.S. avoids this problem by having a fixed dollar repayment requirement, but it strongly discourages debtors from working before filing by imposing a 1000% repayment tax on marginal pre-bankruptcy earnings. The Canadian approach of imposing a 50% repayment tax on marginal post-bankruptcy earnings is probably the most economically efficient, although the simulation results discussed above suggested that even this rate is much higher than the optimal level.

Although U.S. bankruptcy law moved in a pro-creditor direction with the adoption of BAPCPA and French, German and Canadian bankruptcy laws have moved in a pro-debtor direction, U.S. bankruptcy law nonetheless remains far more debtor-friendly. An economically efficient U.S. bankruptcy law would follow the general form of the other countries' bankruptcy laws in having a single bankruptcy procedure, much simpler

procedures for determining exemption levels, and a positive-but-low repayment tax on post-bankruptcy earnings. Like French bankruptcy law, it would maintain debtors' access to bankruptcy protection by having low out-of-pocket costs of filing and it might also discharge loans made to "over-indebted" debtors.

Table 1: Non-Business Bankruptcy Filings, 1980-2006

	Non-business filings U.S.	Filings per 1,000 population U.S.	Filings per 1,000 population France	Filings per 1,000 population Germany	Filings per 1,000 population Canada
1980	287,570	1.3			0.85
1985	341,233	1.4			0.80
1990	718,107	2.9	1.6		1.0
1995	874,642	3.3	1.2		1.8
2000	1,217,972	4.3	2.5		2.4
2001	1,452,000	5.1	2.3	0.21	2.6
2002	1,539,000	5.3	2.4	0.56	2.6
2003	1,625,000	5.6	2.7	0.74	2.7
2004	1,563,000	5.3	3.1	0.86	2.6
2005	2,000,000	6.8	3.0	1.2	2.6
2006 (first half)	528,000	1.8		1.7	

Sources and notes: Bankruptcy filings in the U.S. may be by individuals or married couples; in the other countries, filings are by individuals. This means that filing rates in the U.S. are understated relative to rates in the other countries. Data for 2006 are annual figures based on the first half of 2006 (U.S.) and the first quarter of 2006 (Germany). Data on number of non-business bankruptcy filings in the U.S. are taken from www.abiworld.org/ContentManagement/ContentDisplay.cfm?ContentID=21610, data for Canada are taken from <http://www.bankruptcycanada.com/bankstats1.htm>, and data for France and Germany are taken from Kilborn (2004 and 2005), www.banque-france.fr/fr/publications/telechar/catalogue/stat_surend.pdf and www.destatis.de/indicators/e/ins110ae.htm.

**Table 2:
Comparative Personal Bankruptcy Law**

	<i>proportion of debt discharged (d)</i>	<i>fixed value asset exemption (X)</i>	<i>fixed value earnings exemption (Y)</i>	<i>marginal earnings exemption (m)</i>	<i>repayment period</i>	<i>debtors' filing cost (C)</i>	<i>if discharge is discretionary</i>
France	interest discharged plus all debt remaining at the end of the repayment period;	modest household goods exempt; no homestead exemption	\$6,000 for singles to \$13,000 for family of four per year	falls from 95% to 0% when earnings exceed \$20,000 for single or \$23,000 for family of four	8-10 years	0	discretionary
Germany	25% plus all debt remaining at the end of the repayment period	modest household goods exempt; no homestead exemption	\$21,000 for couples, up to \$38,000 for families per year	0	6 years	intermediate	discretionary
Canada	unsecured and secured debt discharged	varies across provinces; largest homestead exemption is \$40,000	\$21,000 for single person; \$40,000 for families of four	50%	9 - 21 months	\$1,600	automatic
US— Chapter 7	most unsecured debt plus all debt remaining at the end of the repayment period	varies across states; some have unlimited homestead exemptions	unlimited	100%	--	\$1,800 – 2,800	automatic
US— Chapter 13		unlimited	\$66,000 to \$87,000 for families of four depending on state; higher for strategic debtors	0	5 years	\$2,700 - 3,700	automatic

Notes: France, Germany and Canada all require that debtors negotiate with creditors and attempt to arrive at a voluntary repayment plan before filing for bankruptcy. Sources: Ziegel (1999) and (2007), Kilborn (2004) and (2005), and www.bankruptcycanada.com.

Figure 1

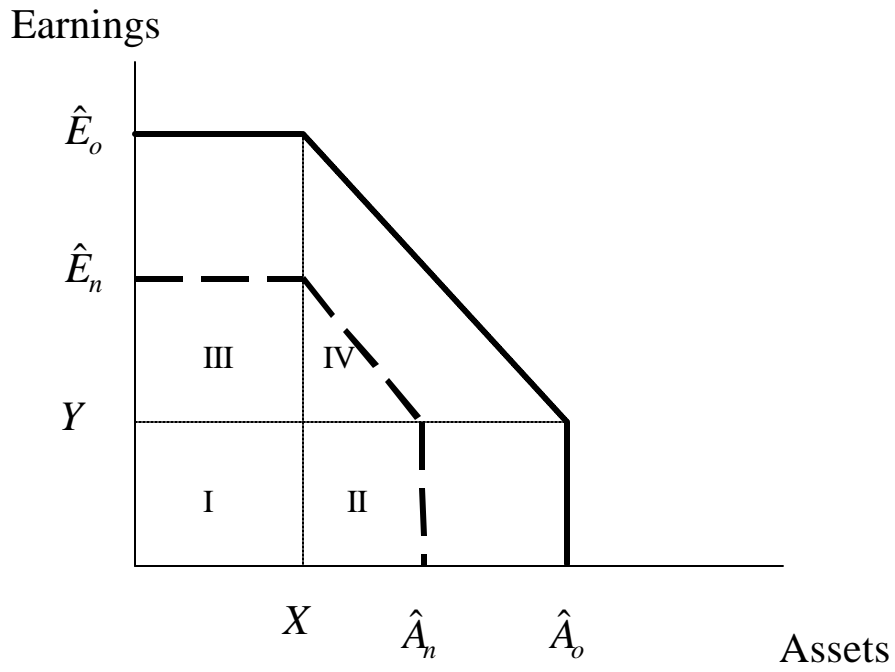


Figure 2

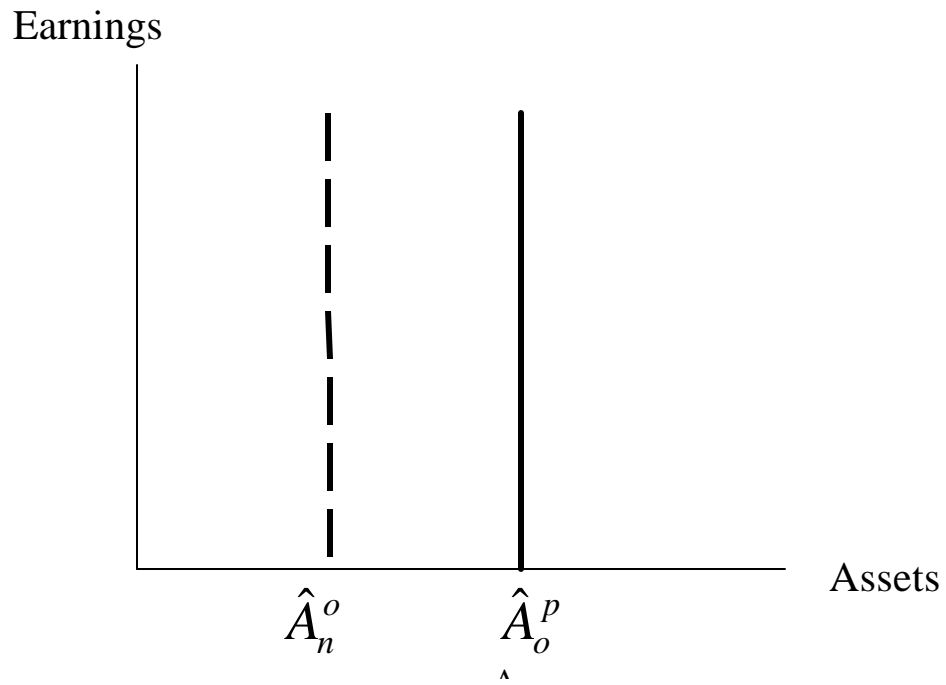


Figure 3a

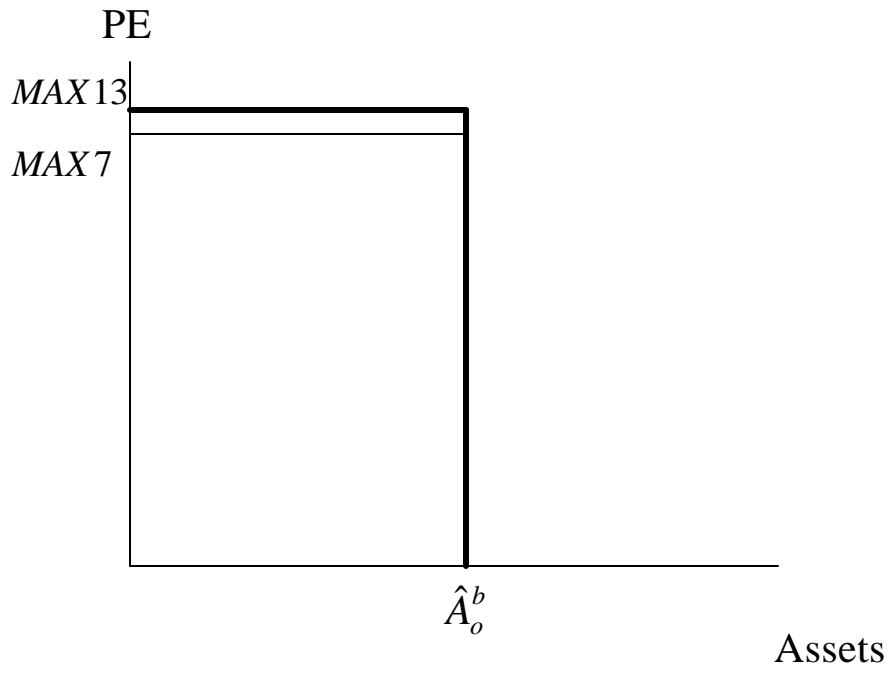
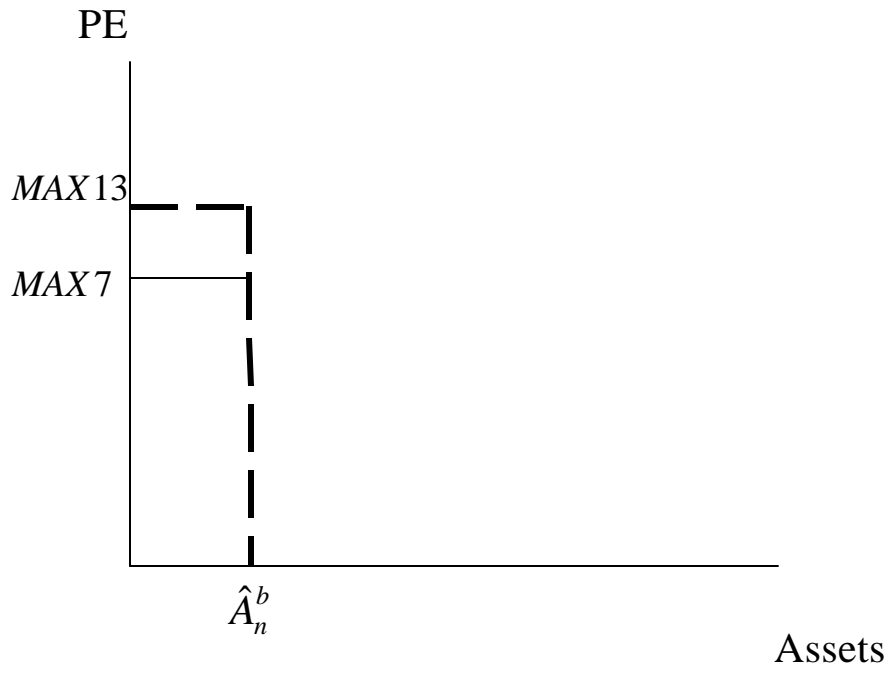


Figure 3b



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