

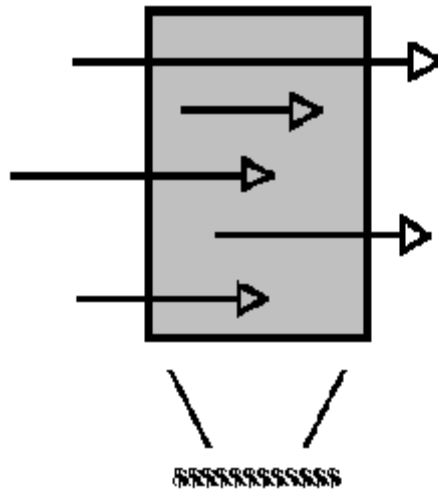
# ESTIMATING THE YIELD TO CREDITORS OF CHAPTER 13 CASES<sup>1</sup>

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The yield of chapter 13 cases to their creditors over their lifetimes is an important measure of the chapter's effectiveness. Yet the current state of information management for chapter 13 cases (with different data elements held by the courts, chapter 13 trustees, and EOUST) prevents ready access to precise counts of case yields. The EOUST is moving toward collecting the relevant information by gradually changing the annual information requested from the trustees. In the meantime, two methods are available to acquire the information: collecting it directly from individual case files in courthouses, or estimating it using a mathematical approximation on information in the trustees' annual reports. This report uses the second method. The approximation calculation is not particularly intuitive on its face; the purpose of this appendix is to describe the calculation and its rationale.

## Beginning with annual distributions to creditors

The trustees' annual reports provide the yearly yields to creditors (separated into secured, priority, and unsecured) for all the cases managed by each trustee. The accompanying chart illustrates a group of chapter 13 cases as seen during the window of trustee annual report:



The window of the annual report provides a clear view of the number of cases passing through the system and the amounts of money yielded by them. As shown, some cases begin and end during the year, some begin there and go beyond, some have begun earlier and terminate within the window, and some pass through. Given the reality of completed five-year plans, we know that the total span occupied by cases within the window can occupy a full decade.

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<sup>1</sup> All views expressed in this article are those of the authors, and do not necessarily represent the views of the Executive Office for United States Trustees.

## The next steps: yield per year, yield per case

The next step is to move from the amount of money yielded by cases during a year to an estimate of the amount these cases yield during their lifetimes. The amount yielded per year for each case, multiplied by the average duration of the cases in the window, estimates the amount yielded by the average case during its lifetime:

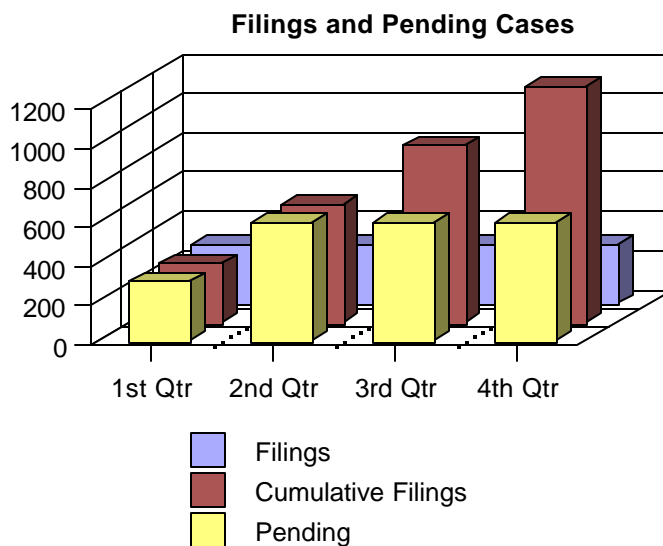
$$(\text{mean yield per year}) * (\text{mean duration}) = (\text{mean yield per case})$$

The data in the annual reports allows us to calculate directly the mean yield per year: divide the total amount yielded by the number of cases in the window, i.e. the pending caseload:

$$(\text{total yield per year}) / (\text{pending caseload}) = (\text{mean yield per year})$$

The annual reports do not link case yields directly with case durations. If they did, UST ability to monitor the efficiency and effectiveness of chapter 13 administration would be enhanced. At present, we must rely on an approximation method to gauge mean case duration, as follows.

### The pending to filing ratio is an estimate of mean case duration: a basic example



The purpose of this section is to show why it is true that the ratio of pending cases to cases filed, over a time period, reliably estimates the mean duration of the cases included in the calculation, given the validity of certain assumptions. If the assumptions differ from reality, the reliability of the estimate suffers.

Start with the simplest case: cases are filed at a uniform rate of 100 per month, and every case

has the same duration, say 6 months. The accompanying graph shows the courses of filings and pending cases during a year's time.

In this case, it is clear that the pending caseload reaches its maximum at the end of the second quarter and stays constant thereafter, because, after six months, cases are terminating at the same rate that they are being filed. So at the end of the year, the pending caseload is 600 and there have been 1200 filings. The pending to filing ratio, therefore, is

$$(\text{pending}/\text{filings}) = (600/1200) = 0.5$$

Expressed as a proportion of the time period of one year, this is 0.5 years, or 6 months. So the pending to filing ratio is an accurate estimator of case duration.

The pending to filing ratio remains a good estimate of mean case duration even when cases vary in their durations—so long as the variation is random. (In such a case, we should report a measure of variability around the mean to indicate the probability that the actual mean duration falls within any particular distance from the estimate.) If one or more factors change case duration systematically during the total time period of interest, then the single ratio taken at one time during the total time period will be an unreliable estimator.

When many cases in the population last longer than one year, as in chapter 13, there is the additional problem of choosing the right measure of filings to put into the equation. As we have described the calculation so far, the number used is the number of filings during the same year in which the pending caseload is measured (i.e., a year's worth of information from the trustees). This is a perfectly good number if filing rates have been constant or have varied only randomly around an average close to the number for the year in question (and assuming no systematic changes in mean case durations, as mentioned above). But, as with mean durations, if there have been systematic changes in filing rates, the subsequent estimates will be less reliable.

One response to the problem is to use the average of annual filings going back far enough to pick up most or all of the cases that are in the annual window of the trustees' reports. We consider a five year filing average to be appropriate. So our estimate of average case duration is

$$(\text{mean duration}) = (\text{pending FY'XX} / \text{mean filings over CY'XX-4 through XX})$$

In the case of FY'98, for example, the average is calculated over CY'94 through CY'98.

### **The final step: the pending caseload cancels out**

The formula as we have developed it is as follows:

$$\text{Mean yield per case} = [\text{yield FY98} / \text{pending FY98}] * [\text{pending FY'98} / \text{mean filings CY'94-98}]$$

The pending FY98 terms cancel each other out, and what remains is what we sought:

$$\text{Mean yield per case} = \text{yield FY98} / \text{Mean filings CY 94-98}$$