Lending Rationale

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OVERVIEW- ASSET CONVERSION LENDING

In asset conversion lending, the bank is financing a temporary build -up of current assets above the level the firm normally maintains.

Such a build-up occurs, primarily, in seasonal businesses as they purchase inventory in anticipation of a major selling season or as they replenish inventory that is available only at certain times of the year and as they carry accounts receivable resulting from the sale of that inventory.

Since demand for, and sales of, their products do not parallel the build-up of inventory, such companies experience temporary imbalances between the inflows and outflows of funds.

The timing difference between the inflow of funds from the completion of sales transactions and the outflows of funds associated with the purchasing of inventory, wage and salary expenses, and other costs involved in completing the production cycle and operating the business my result in a need to borrow externally on a temporary basis to meet required expenses as they come due.

Banks have traditionally provided such short-term, temporary financing to businesses as long as the operating cycle progresses smoothly, the build-up in current assets (beginning with the seasonal build-up in inventory and its conversion to receivables after the selling season) will be followed by the conversion of receivables to cash in an amount sufficient to pay back the full amount of the principal and interest of the seasonal borrowings.

The line of credit is the bank financing vehicle tailor made for seasonal borrowing needs; the temporary nature of borrowing needs allows for regular clean ups of the seasonal line borrowings.

In this section we will discuss considerations and techniques for evaluating risk in an asset conversion loan proposition and determining the adequacy of the bank's protection against loss. Before turning to the analysis of the asset conversion loan, however, we will first look at Seasonality and show how the asset conversion loans is a self-liquidating one that is repaid from the conversion to cash of the assets being financed.

Asset Conversion Loan as Financing for Seasonal Needs

SEASONALITY

Financing opportunities, appropriately met by the asset conversion lending rationale, are created by seasonal deviations in the timing of product demand or supply during a firm's operating cycle. There are three types of seasonal situations:

1. **Seasonality in demand** exists when product demand (and sales) is limited to, or concentrated in, a particular, relatively short, period of time. Companies subject to seasonal demand for their products include, for example, manufacturers of skis, toys, or swimming suits. Such companies must first build up their inventories in anticipation of a peak selling season by purchasing additional raw materials, adding labour, and stocking finished goods well in advance of anticipated sales.

2. **Seasonality of supply** occurs when raw materials can be acquired only during a limited period of time. Food processors, for example, whose raw materials must be purchased during a short harvest period, are subject to Seasonality of supply, even though demand for the product may be fairly constant throughout the year.

3. **Seasonality in both demand and supply** can occur simultaneously as in the Christmas tree business; the tree retailer must acquire stock within a month prior to Christmas, the period coinciding with demand and sales.

Seasonal patterns affecting a firm's selling season, its supply sources, or both will have an effect on its financing requirements and borrowing patterns. Such firms will often have a need to borrow on a temporary basis. When sales are made and the resulting account receivable collected, the company will be able to pay off any short-term borrowings.

Example of Seasonal Build-up Financed by Short term Borrowings

In the following example, we trace the seasonal build-up of working investment in the various stages of the asset conversion cycle of a toy manufacturer. The company has a $100 M line of credit from a bank to finance its seasonal working investment.

SEASONAL BUILD-UP OF WORKING INVESTMENT

Operations

(Dollars in Thousands)

	Assets			Liabilities		Equity	
	Cash	A/Rs	Inv	A/Es & A/Ps	NP		RE
June: Balance sheet position at low point before start of seasonal cycle. (The $100M working investment represents the permanent level, which the company is able to finance with earnings retained in the business from the completion of previous cycles).	0		25	100 (W1=100)	25	0	100
July: Purchase $100M inventory on 30-day terms. accrue $25M labor and manufacturing expenses.							

collect outstanding A/Rs and apply cash to pay A/Es and A/Ps. Balance sheet at end of month would show:	0	0	225 (W1=100)	125	0	100
August: Purchase $200M inventory on 30-day terms. Accrue $75M labor and manufacturing expenses. Borrow $125M to pay previous months A/Ps and A/Es. Balance sheet at end of month would show:	0	0	500 (W1=225)	275	125	100
September: Purchase $500M inventory on 30-day terms. Accrue $100M labor and manufacturing expenses. Borrow $275M to pay previous months A/Ps and A/Es. Balance sheet at end of the month would show	0	0	1100 (W!=500):	600	400	100
October: Sell $700 inventory on 30-day terms (mark-up of $200M over cost). Borrow $600M to						

pay previous month's A/Ps and A/Es. Balance sheet would show:	0	700 (W1=1300)	600	0	100	300*t end of month
November: Sell $700M inventory on 30-day terms (mark-up of $200M over cost). Collect $700M on A/Rs and apply cash to pay down notes payable. balance sheet at end of month would show:	700	100 (W1=800)		0	300	500*
December: Collect $700M on A/Rs and apply cash to pay off notes payable. Retain $400M cash as trade profit. balance sheet at end of month would show:	400	100 (W1=100)		0	0	500*

***These amounts do not represent actual additions to retained earnings since interest, SG&A, and other costs of producing and selling the goods (other than CGS) must be deducted from gross profit to arrive at the net profit figure that will represent actual additions to retained earnings.**

The temporary build-up of working investment in a seasonal situation, which was financed by short-term borrowings under a line of credit.

At the completion of the selling season and the collection of the account receivable, the firm in our example was able to pay off the entire principal of the borrowed funds. All expenses (other than CGB, which has already been accounted for) of producing and selling the goods, such as interest on notes payable and SG&A, can be paid from the $400M gross profit resulting from the completion of the seasonal cycle. (Therefore, the actual entry to retained earnings would be smaller than indicated in our example).

DIFFERENTIATING SEASONAL COMPONENT OF WORKING INVESTMENT:

This example suggests an important principle of asset conversion lending: borrowings under the seasonal line of credit properly finance the seasonal component of working investment, as distinguished from the permanent component. The seasonal build-up of working investment is temporary - it is expected to be converted to cash at the completion of the seasonal cycle to repay in full (clean up) the seasonal line borrowings. Permanent working investment, on the other hand - that level of working investment the firm normally keeps on hand to ensure the continued ability to meet minimum off season demand - represents a long-term need and is best financed by long - term funds, ideally equity, and not by a short-term vehicle, such as a line of credit.

Financing permanent working investment with a line of credit, first of all, would violate tenor matching and bring instability to a firm's funding base, since the firm would have to renegotiate year-to-year to meet its permanent needs or would have to seek other sources of financing if the line were reduced or cancelled. In addition, since permanent working investment is not expected to be converted to cash at the completion of the seasonal cycle, a firm using a line of credit to finance its permanent working investment would not be able to meet the clean-up requirements on the line without borrowing from another bank.

NOTE: It should not be inferred from the above, however, that permanent working investment should never be funded with short-term lines of credit. We will see later that another major form of lending - asset protection lending - is characterized by such funding patterns. But this lending rationale is applicable to lending situations quite distinct from the seasonal asset conversion loan, for which the above principle applies.

Quantifying the Seasonal Component of Working Investment

The seasonal component of working investment is the difference between working investment at low point (the permanent level) and working investment at high point (the seasonal peak). To determine working investment low point and high point, quarterly or monthly financial data must be consulted. (Since fiscal statements are usually drawn up at seasonal low point, when working investment and notes payable is at their lowest levels, these statements will not indicate the changes in working investment levels during the cycle).

The determination of the seasonal component of working investment should take into account any increase in the level of permanent working investment associated with a growth in sales.

The bank's willingness to finance the seasonal component of working investment is a function of the firm's ability to complete the seasonal cycle and the quality, or liquidity, of the inventory and accounts receivable. We turn now to an analysis of the risks the bank assumes in financing a firm's seasonal working investment and a determination of whether these risks are at a level that justifies bank exposure.

Evaluating Asset Conversion Risks

Analysis of Risks in the Asset Conversion Cycle

To lend Protection on an asset conversion rationale, where payback derives from cash collected at the completion of the seasonal cycle, the bank must be assured, first of all, that the firm will be able to successfully complete the asset conversion cycle it is financing. The basic approach to asset conversion analysis is to evaluate risks inherent in the nature of the business at each stage of the cycle - supply, production, demand, and collection - that may prevent or delay its successful completion.

Suppose, in reference to our earlier example of the Christmas toy manufacturer, that analysis of the company's conversion cycle and industry characteristics has identified the following factors as major business risks.

- The component motors used in the production of the toys are supplied by Japanese manufacturers and timely delivery of the supply is subject to a whole range of contingencies from the ability of the Japanese firm to complete its cycle, to the successful transporting of the goods overseas, and the proper compliance with international trade requirements.

- Machinery and equipment used in the production of toys is old and due for replacement.

- The toy market is subject to rapid changes in consumer taste.

- A significant proportion of the firm's sales are to one customer.

In our example, as we developed it to illustrate the self-liquidating nature of the asset conversion loan, the conversion cycle progressed smoothly - the company was able to obtain the necessary materials, produce the toys on time for the Christmas season, sell the toys at a price sufficient to recover the costs invested in the manufacturing process

and make a profit, and collect the full amount of the receivables. But what if things had not progressed so smoothly? What if, for example, the component motors from Japan were delivered three weeks late due to a dock strike, equipment breakdowns led to further production delays and increased costs, only half the volume of toys the company expected to sell were sold due to production delays and lack of sufficient demand, and 30% of the accounts receivable were uncollectible due to insolvency of the company's major customer? Obviously, the company would not then be able to clean-up borrowings on the line of credit used to finance the seasonal cycle (unless it had alternate sources of cash).

EVALUATING RISKS IN THE ASSET CONVERSION CYCLE

OBJECTIVES: Identify major business risks to which a company is subject in each of the stages of the asset conversion cycle.

Determine how well management has mitigated these risks in the past.

Assess Management's ability to mitigate business risks over the future cycle the bank is considering financing.

METHOD: Study the company's asset convention cycle, with particular attention to Seasonality factors and timing of the cycle. Identify business risks and mitigating factors at each stage of the cycle. In light or probable future conditions and events estimate the company's probable future performance.

	Production	Demands	Collection
Raw materials must 1) be available, 2) be obtained by the company at the required point in its seasonal cycle, and 3) be of adequate quality and at a price that can reasonably be expected to be recovered at the completion of the cycle. Analysis of risk and mitigants should consider factors	A key risk in many seasonal companies is that they will miss their season due to production delays. Major areas to consider when evaluating ability of management to produce goods on time and at a cost that can be recovered in the	Once produced, the finished goods must be delivered and sold. Analysis of risks concentrates on what has determined demand for the company's products in the past and whether sufficient demand is likely to exist in the future. Factors to consider include:	Factors to consider in an analysis of the firm's ability to collect its receivables include the following:

affecting:

- Supply sources and their reliability, concentrations, location, seasonal, etc.
- Prices of raw materials
- Delivery of raw materials
- Quality of the raw materials
- Characteristics of the raw materials that may improve production and/or distribution risks e.g. perishability, shifting consumer preference.

sale of product include the following:

- Labor: availability, skill, relations with management cost.
- Plant and equipment; efficiency; cost of operating, obsolescence factors, convertibility insurability, availability and cost of energy.

- Nature of product-style, obsolescence factor, perishability, quality
- Consumer demand and market characteristics
- company's sales methods and advertising
- Company's competitive advantage or market niche and ability to maintain it.
- Effect of economic conditions or government regulations on the market.
- Company's distribution system to assure the proper location of finished goods to use. Sales orders within required delivery times.

- Quality and concentration of the company's customers
- Company's experience with charge-off and returns and allowances.
- Aging schedule of receivables
- Expected economic and industry conditions that might allow down collections in the future.

The analysis of the business risks at each stage of the conversion cycle is critical ~~to~~ for asset conversion lending. Considerations that may be applied in this analysis are summarized on the chart opposite. The focus of the analysis is to the future: will the firm be able to mitigate its business risks to successfully complete the seasonal cycle the bank is considering financing? Analysis of the firm's historical performance is the first step. If management has been able to mitigate major risks in the past, the bank may have confidence in its ability to do so in the future. However, historical success is neither a sufficient nor necessary condition for future success, and analysis must concentrate on anticipating future events and their probable effect on the firm's future performance. The bank will lend only if it has confidence in the firm's continuing ability to mitigate risks and to complete the seasonal cycle.

Working Investment Analysis

The analysis of working investment and sales levels and the relative mix of working investment components through the seasonal cycle can provide additional indication of the risk that would be assumed by the bank in financing the cycle. The following measures are often calculated over several historical periods:

- Dollars of sales for each quarter
- Dollars of WI for each quarter
- Dollars of Notes Payable for each quarter
- % Δ Sales, quarter to quarter
- % Δ WI, quarter to quarter
- % Δ Notes Payable, quarter to quarter
- % Δ WI, high point to high point
- Difference WI low point to high point, for each cycle.
- Difference WI low point to low point, for each cycle.
- % Δ Receivables, quarter to quarter
- % Δ Inventory, quarter to quarter
    - % Δ Raw Materials
    - % Δ Work in Process
    - % Δ Finished Goods

The objective of an analysis of historical working investment patterns through the seasonal cycle is to identify critical factors and trends that could affect the firm's ability to repay an asset conversion loan over the future cycle. Considerations that may guide this analysis include the following:

1.Working Investment Components: What is the historical pattern of working investment levels and the relative mix of accounts receivable and inventory at various points in the cycle? How does the company's seasonal working investment build-up compare with others in the industry?

Are there any developing trends, such as an increase in the inventory component the least liquid current asset - which may indicate poor quality inventory that may not be saleable? What are the factors affecting the receivables component of working investment? If, for example, receivables are increasing, is this the result of increased sales or is it due to other factors, such as lengthening credit terms or carrying overdue ultimately un-collectible, receivables? How does the firm purchase inventory - in anticipation of future sales, or against confirmed orders only? What is the relative mix of raw materials, work in process, and finished goods, and are there any trends that would indicate increased risk to the bank? If finished goods, for example, comprise an increasing proportion of inventory, problems with inventory quality may be indicated.

2.Relationship of Working Investment to Sales: Working investment levels bear a direct relationship to sales and, other things being equal, the WI/Sales ratio should remain relatively constant, i.e. working investment levels should increase proportionately with sales. The converse, however, is not always true; a decrease in sales is not usually met with a declining levels of the inventory component of working investment, at least not until a considerable time has elapsed, with the result that working investment increases in relation to sales. This is exacerbated by the fact that often management will attempt to arrest a sales decline by lengthening credit terms and/or reducing credit standards, resulting in an increased level of receivables.

It should be noted that in a seasonal company where working investment is being increased in anticipation of future sales, the WI/Sales ratio may be temporarily distorted at points in the cycle. To be meaningful in comparative analysis, the ratio should be calculated at seasonal low point or at the same point is the cycle as for the companies being compared.

Changes in the WI/Sales ratio indicate changes in the time it takes to convert inventory and/or receivables to cash (or the time it takes for spontaneous financing to mature). The reason for changes in the ratio should be investigated to determine the credit implications. An increasing ratio, for example, may indicate that the company is prudently purchasing raw materials in advance in anticipation of future shortages or price increases or, on the other

hand, it may point to problems in selling inventory or collecting receivables that could indicate increased risk to a lender in financing future cycles.

The WI/Sales ratio is a summary ratio, changes in specific asset components can be isolated by studying the individual turnover ratios.

In our discussion of working investment to this point, we have been concerned with isolating and evaluating the quality of the accounts receivable and inventory that are to provide the source of payback for the seasonal loan.

It is important, however, to keep in mind the other side of the working investment equation - the accounts payable and accrued expenses that provide sources of spontaneous financing for the firm's asset investment. Analysis of working investment must consider the firm's management of its financial obligations. A decreasing WI/Sales ratio, for example, may be an indication of increasing efficiency in asset management and consequent decreasing risk to the bank as a short-term creditor; on the other hand, it may indicate the firm has been increasing its spontaneous financing by not paying trade suppliers on time, a factor that should be considered when determining a firm's creditworthiness.

3.Relationship of Working Investment to Notes Payable: The final test of a firm's creditworthiness for an asset conversion loan is its ability to clean up its line borrowings at the completion of the seasonal cycle; note payable must be zero at working investment low point:

It should be noted that a company can appear to clean up its notes payable either by 1) delaying payments to trade suppliers (riding the trade) in order to pay down notes payable at fiscal date - in effect, window dressing the fiscal statement or 2) borrowing from a second bank to clean up borrowings from the first bank. These are not appropriate closure measures of the outstanding loans and are not acceptable to the bank when lending on an asset conversion rationale.

If a company is not able to honour its seasonal borrowings, i.e., if notes payable are not zero at working investment low point, the implication is either 1) the company was not able to liquidate its entire seasonal working investment and the bank is, in effect, financing business risk (represented by those seasonal assets that were not converted to cash) or 2) the short-term line of credit is being used to finance part of the permanent level of working investment, an indication of improper tenor matching and that the company is not generating sufficient internal funds to finance permanent working investment. In either case, the seasonal line of credit is not the appropriate financing vehicle, since it does not allow for the controls or the rate the bank requires when it is providing permanent money or is financing a situation of increased risk. (Financing under these conditions may, however, sometimes be extended under the asset protection lending rationale, which will be discussed later).

This brings us to a discussion of the concept of protection in asset conversion lending. Given the asset conversion risks indicated in our analysis, will the firm be able to fully repay bank borrowings that are financing its seasonal working investment? Is the firm sufficiently strong financially so that any problems in converting the seasonal assets to cash will not result in a loss to the bank as a short-term creditor

Protection against Loss in Asset Conversion Lending

The primary protection against loss in an asset conversion loan lies, as we have seen, in the quality of the working assets and management's ability to mitigate risks in the asset conversion cycle. When the bank lends on an asset conversion basis, it is essentially expecting that the seasonal cycle progress smoothly and that the cash collected at its completion will be sufficient paying back the existing loans. Any lending situation, however, entails some risk, and the bank must consider whether it would be protected against loss if things were to go wrong in the asset conversion cycle it is financing. Following are a few possible scenarios.

A retailer of ski equipment, for example, finances the purchase of his inventory with a seasonal line of credit, expecting to repay the bank at the completion of the winter sales

season. Due to an unusually mild winter, however, sales of skis are down and the borrower is unable to clean up the line. The bank has several options to obtain repayment. If, on the one hand, the bank demands immediate payment, the retailer may be able to obtain the necessary cash by selling the unsold inventory in an out-of-season sale. If the retailer is sufficiently well capitalized, he will be able to absorb any losses resulting from selling the inventory at a discount (although because of the nature of the inventory, he may be able to obtain good value from the sale and suffer only negligible losses).

Alternatively, if the bank judged the borrower to be in essentially sound financial condition and was convinced that the inventory could be sold the following winter - at normal, or even appreciated, prices - then the bank may be willing to renew the note until that time. The retailer could then avoid any losses resulting from an out-of-season sale (although he would, of course, incur additional interest costs that would reduce his profit).

In a more difficult case, approximating a worst case scenario, a manufacturer of highly faddish dresses, who has financed his summer line with a seasonal line of credit, has missed the season due to production delays and is consequently unable to clean up his line borrowings. The bank does not want to continue the financing because changes in consumer taste have already greatly reduced the market value of the dresses, and the bank feels that by the following summer season the market will have virtually disappeared. Therefore, the bank calls the note and demands immediate payment. To obtain cash, the manufacturer sells the inventory to a distributor at 60% of cost, not enough to repay the note.

In an attempt to make up the difference, the manufacturer starts to liquidate his remaining inventory beyond the level it normally keeps on hand. In liquidating this permanent level of inventory, however, the manufacturer is essentially putting himself out of business. In this case, the company may have to declare bankruptcy in order to meet, not only the bank's claim, but the claims of other creditors as well.

In bankruptcy all the assets of the company are liquidated under the authority of the bankruptcy court and the proceeds are distributed to the various creditors. To the extent that the liquidation proceeds are sufficient to repay all creditors, neither the bank nor other creditors will incur a loss. If, however, liquidation proceeds fall short of what is necessary to meet the claims of creditors, some, or all, the creditors will not be made whole. (In bankruptcy the claims of some creditors may be senior to the claims of others. If a creditor's claim, for example, is secured by the assignment of certain assets of the company, then the proceeds from the liquidation of those assets will go to that creditor until his claim is satisfied. If all creditors are unsecured, then they have equal claim on the pool of assets and the proceeds from their liquidation will be distributed on a pro-rata basis).

This discussion of possible loss scenarios leads us to a more direct consideration of what provides protection against loss in an asset conversion-lending situation. Simply stated, the bank is protected against loss when the liquidating value of the assets is sufficient to meet the claims of creditors. To assess the adequacy of protection, the bank looks ultimately to the relation of debt to equity in the borrower's capital structure. The greater the potential shrinkage in the value of the assets, the greater should be the firm's equity cushion to absorb this shrinkage.

In this section, we will present tools that can be used to determine whether a borrower is sufficiently well capitalised so that the bank may have confidence that it will be repaid, even in the event the borrower encounters difficulty in seasonal cycle. The greater the business risks inherent in the cycle, the greater the potential shrinkage in value of the current assets, and the greater the protection the bank will look for in the financial structure of the company. Where the quality of the protection is weak vis a vis the risks involved, the bank will seek to improve its protection by, for example, lending only against specific assets that the borrower has assigned to the bank as collateral. There are other means, short of taking security, by which the bank can enhance its protection against loss, but before discussing these we will first present analytical considerations and techniques that can be applied in determining whether the financial structure of the borrower justifies lending on an unsecured basis.

Working Capital

Working capital is the basis measure of a firm's ability to meet the claims of current creditors from the conversion of current assets to cash. As long as a company can meet these obligations as they come due, it is not likely to be forced into liquidation or bankruptcy. As you recall from the financial statement analysis unit, working capital is provided by permanent funds - long-term debt and equity. These permanent funds should be maintained at a level to support permanent working investment and absorb other business risks that may result in the shrinkage in the value of current assets. Current assets could, in effect, shrink by the amount of working capital before current creditors would incur a loss. In this sense, working capital provides a cushion of protection to current creditors.

Our question is how much working capital is adequate? The desired level of working capital depends on the business` risks of the situation. Where business risks are high, the bank would want to see a higher level of working capital than if business risks are ~~were~~ lower.

To determine the adequacy of working capital in a seasonal company, we need to look at the composition of assets and liabilities at the point of greatest risk - that is, when the company has the greatest investment in as-yet-unsold inventory, which is being financed by notes payable. At this point, working capital in relation to current assets is lowest and, hence, risk to current creditors is greatest. To simulate this scenario, we project the balance sheet by increasing inventory, accounts receivable, and spontaneous financing to probable high point

levels and adding in all available bank lines. (Conservatism would dictate that the greater proportion of the increase in bank line borrowings be used to finance inventory, a less liquid asset than accounts receivable or cash). An example follows:

Low Point

Cash	10	A/Ps & A/Es	30
A/Rs	20		
		LTD	10
Inv	30		
		Equity	60
NCA	40		

High Point

A/Rs	30	A/Ps & A/Es	40
		LTD	10
Inv	80		
		Equity	60
NCA	40		

WC = 60 - 30 = 30

W1 = 50 - 30 = 20

WC/CA = .5

CA/CL = 2.0

WC = 110 - 80 = 30

W1 = 110 - 40 = 70

WC/CA = .27

CA/CL = 1.38

Note that at high point, although the dollar amount of working capital remains the same as at low point, the ratio of working capital to current assets and the current ratio decrease. The protection afforded by working capital is thus significantly diminished at high point. It is at this point of greatest risk to current creditors that we want to evaluate the adequacy of working capital.

The objective of our analysis is to determine whether, on an ongoing basis, the firm will be able to make payments to current creditors - is the firm sufficiently liquid? Applying the

considerations developed previously for determining the adequacy of working capital (i.e., permanent working investment and business risk should be financed by permanent funds), we can make the following observations regarding our balance sheet example above. Working capital equals $30 and permanent-working investment (working investment at low point) equals $20. As long as the liquidating value of the current assets does not shrink by more than $10, then the cushion of protection provided by working capital is sufficient to protect current creditors from loss.

The greater the quality of the assets (measured by an evaluation of the quality of accounts receivable and inventory and an assessment of management's ability to mitigate business risks in the seasonal cycle), the less they are likely to shrink in value. The desired level of working capital is a function, then, of the asset conversion risks of the loan proposition. Where the bank is assured of the quality of the assets and the ability of the firm to complete the seasonal cycle, a relatively small working capital cushion may be acceptable. Where, however, analysis has indicated significant asset conversion risk, whether from asset liquidity, production, or other problems, the bank will look for a larger working capital cushion to absorb potential asset shrinkage.

The analysis of the adequacy of working capital is a basic test of the overall financial strength of the firm, a broad measure of the ability of the firm, on an ongoing basis, to meet the demands of current creditors from the cash obtained from the conversion of assets in the normal course of business operations. There are other tools that can supplement the working capital adequacy test when evaluating the protection against loss in asset conversion lending. For example:

The borrower's ability to finance part of the seasonal working investment internally, that is, without borrowing, can be an important consideration.

In the balance sheet example above, cash balances at low point were applied to finance part of the seasonal working investment build-up. A financially strong company will be able not only to pay down notes payable at low point but also to retain a level of cash balances and/or marketable securities that will reduce the seasonal borrowing needs. A financially weaker company may be able to pay down notes payable but not be able to retain a level of cash and marketable securities at low point.

The percentage of seasonal working investment that is being financed by bank borrowings can be calculated as an additional measure of risk. The lower the percentage is, the less the risk to current creditors.

$$\frac{\text{Notes Payable at High Point}}{\text{W1 at High Point - W1 at low Point}} = \text{\% Seasonal W1 Financed by NPs}$$

(NOTE: The denominator of this ratio may be distorted if the company is abusing spontaneous financing by riding the trade, especially at low point in order to clean up short-term borrowings at fiscal date. Such a practice would understate low point working investment (the permanent need) resulting in a lower value for this ratio. In such a case, the denominator should be adjusted so that it is more accurately reflects seasonal working investment build-up).

In summary, working capital is a useful measure of the ability of the company to meet the claims of current creditors on an ongoing concern basis. When working capital is adequate, the general indication is that the borrower's financial structure is sufficiently liquid so that current creditors feel assured they will be paid back in the normal course of operations.

The working capital adequacy test, however, does not address what must be, in final analysis, the bank's ultimate concern: if, despite our expectations to the contrary, the affairs of the borrower deteriorated to such an extent that he is unable to repay the note through any other means than liquidation or bankruptcy, would the liquidation proceeds be sufficient to meet the bank's claim? In the working capital adequacy test we look at the liquidating value of the current assets in relation to the claims of current creditors. In a liquidation scenario, however, the claims of all creditors - both current and long-term - need to be paid from the liquidation proceeds. The working capital adequacy test did not consider the mix of funds long-term debt and equity - providing working capital. In high point liquidation analysis we will examine more specifically the adequacy of the borrower's equity cushion to absorb business risk.

High Point Liquidation Analysis

The objective of high point liquidation analysis is to determine whether proceeds from the forced liquidation of a borrower's assets would be sufficient to fully satisfy the bank's claim as unsecured creditors. The technique is to 1) inflate the balance sheet to high point, 2) estimate through an analysis of the asset conversion risks and an assessment of the quality of the assets - the proceeds that are likely to result from their forced liquidation, and 3) compare the total estimated liquidation proceeds to total senior liabilities (both current and long-term), plus accrued interest. If total liquidation proceeds are greater than or equal to total senior liabilities, then the bank, as an unsecured creditor, is not likely to suffer a loss even in a worst case scenario - liquidation of the entire company.

We can demonstrate liquidation analysis using the balance sheet example developed above. As you recall, we inflated the balance sheet to probable high point levels by increasing liabilities to reflect full usage of available bank lines and correspondingly increasing the level of current assets (assuming that the greater portion of increased borrowings would be used to finance the purchase of inventory). It is at this point where bank risk exposure is maximised and the protection afforded by working capital minimised.

Low Point

Cash	10	A/Ps & A/Es	30
A/Rs	20		
Inv	30	LTD	10
		Equity	60
NCA	40		

High Point

A/Rs	30	A/Ps & A/Es	40
Inv	80	NP	40
		LTD	10
		Equity	60
NCA	40		

After having determined the level and mix of current assets at high point usage of bank debt, the next step is to estimate the proceeds that can reasonably be expected to result if all the borrower's assets were to be liquidated under distress conditions or in bankruptcy.

The value of assets is likely to shrink and devaluated in such a situation, making their net realizable value something less than the value at which they are carried on the company's books. To estimate the net realizable value of current assets, the asset conversion risks must first be identified and the asset quality assessed. The risks are then quantified by attaching shrinkage margins to each category of current assets.

If, for example, the bank judges the account receivable to be of good quality - if the obligors are credit-worthy and the receivables ultimately collectible, then a relatively low shrinkage

can be assigned to receivables. (Generally, the minimum shrinkage margin for account receivable - even those of the highest quality - is 10%. This margin takes into consideration the expenses of collecting the receivables).

Similarly, if inventory consists of highly saleable goods, such as commodities, where there is a ready secondary market, and the bank feels the inventory can be liquidated if necessary at close to its stated value, then a relatively low shrinkage margin can be assumed. Where, however, inventory consists of products, such as manufactured goods, where a considerable portion of the inventory is in the work-in-process stage, where the goods are subject to fashion or obsolescence risks, or where the market is uncertain, then a much greater shrinkage in the value of these goods would be expected in liquidation. (Generally, the minimum shrinkage for the highest quality inventory, usually highly saleable commodities, is 20%. Most often, however, the shrinkage margin must be considerably higher to take into account the risk of not being able to find a buyer or the necessity to sell the goods at great discount and to allow for selling, storage, and transportation expenses).

As far as non-current assets are concerned, unless specific resale value can be determined (such as in the case of premium real estate), the value of these assets in liquidation is assumed to be nil.

For the purpose of our example, we will assume a 10% shrinkage margin for receivables and 20% for inventory. We will also assume no resale value for the non-current assets. We can then compute the probable total proceeds from liquidation of the company as follows:

	Book Value				NRV
A/Rs	30	x	90%	=	27
Inv	80	x	80%	=	64
NCA	40				0
	Total Liquidation Proceeds				$90

Having quantified the net realizable value in liquidation of the company's assets, we now need to compare this amount to total senior liabilities:

Claim	Amount
A/Ps & A/Es	40
NP - CMB	40
LTD	10
Total Sr. Liabilities	$90

The results of our analysis indicate that the liquidation proceeds are greater than total senior liabilities and, thus, assuming our initial assumptions of the probable shrinkage in the value of the assets are correct, the bank would be fully paid out in liquidation. (NOTE: We simplified out example by not including accrued interest with liabilities. When liquidation analysis is treated more fully in the unit on asset protection lending, we will discuss how to account for accrued interest).

If, however, in our example we determined that the asset conversion risks were greater and that the net realizable value of the inventory was only 60% of its stated value, or %48, then the total liquidation proceeds would be reduced to $76, not enough to satisfy total senior claims of $90. Assuming that all creditors are unsecured and that none is subordinated, then this $76 would be distributed among all the creditors on a pro-rata basis. Since the bank's claim is 4/9 of total senior claims, it would receive $34 of the liquidation proceeds, $6 short of its total claim. In such a case, the bank may decide that it can lend only on a secured basis by requiring the borrower to assign certain of his assets as collateral for the loan. If the borrower defaulted on the loan, the bank could liquidate those assets to obtain repayment. In the event of a general liquidation of the company, the proceeds from the sale of those assets collateralizing the bank loan, would be turned over to the bank until the claim was fully satisfied. As long as the amount of the bank's loan does not exceed the net realizable value of the assigned assets, then the bank will be protected against loss. (Although asset conversion loans can be secured as well as unsecured, a detailed discussion of the intricacies of secured lending is beyond our immediate scope. Secured lending will be covered in depth in the unit on asset protection lending).

High point liquidation analysis is a useful tool for testing the ultimate risk to the bank when it lends on an asset conversion basis. While the working capital adequacy test discussed earlier can provide an indication of the overall financial strength of the firm and its ability to meet the claims of current creditors as they come due on an ongoing concern basis, high point liquidation analysis is a more severe test in that it looks at the liquidating value of current assets in relation to total senior claims - those of both current and long-term creditors.

High point liquidation analysis will be developed more fully and rigorously in the unit on asset protection lending, where it is the primary means for determining whether to lend on a secured or unsecured basis.

For the moment, it is important to recognize that in liquidation analysis we are essentially testing the adequacy of a firm's equity cushion. Note that in our example above, equity holders are not competing with creditors for the liquidation proceeds; the claims of creditors have priority over the claims of equity holders, who will not receive any liquidation proceeds until all creditors have been fully paid out. Thus, the larger a company's equity cushion and the less its total senior liabilities, the greater will be each creditor's share of the liquidation proceeds and the greater will be the protection against loss. Another way of saying this is that true working capital (current assets minus total senior liabilities) acts as a cushion of protection to senior creditors. Current assets could shrink by the amount of true working capital before senior creditors (both current and long-term) would incur a loss in liquidation. This revision of the traditional definition of working capital provides a truer measure of protection afforded by the financial condition of the firm, since in liquidation, proceeds from the liquidation of current assets will be distributed to meet the claims not only of current creditors, but those of long-term creditors as well (to the extent that non-current assets are of insufficient value to satisfy the claims of long-term creditors).

Enhancing Protection in Asset Conversion Lending

The working capital adequacy test and high point liquidation analysis are useful techniques for evaluating the protection afforded the bank against loss resulting from difficulties in completing the seasonal cycle. When the borrower is sufficiently well capitalized so that any potential shrinkage in the value of the assets is being absorbed by equity owners, then the bank may be willing to lend on an unsecured basis. Where, however, analysis has indicated that a borrower's true working capital cushion is not sufficient to adequately protect the bank against loss in the event of difficulties, then the bank may take steps to enhance its protection. Financial risk may be reduced and the asset conversion loan justified by one of the following means:

1. The bank may require an outside guarantee of the loan. A parent company may, for example, be willing to guarantee a loan to a subsidiary.

2. If there are significant inter-company accounts payable, the company may subordinate these claims to those of other creditors. (Subordination of debt will be discussed more fully in a later unit).

3. The borrower may sell his receivables to a factor and use the cash to finance part of the seasonal cycle.

4. The bank may require that the borrower assign to the bank certain of its assets as collateral for the loan. By taking security and lending only against specifically pledged assets, the bank is assured that in the event of liquidation, the proceeds from the sale of the collateral will be used to repay the claims of the bank before the claims of other creditors. (The requirements and procedures for taking security can be quite involved and will be discussed in detail in the unit on asset protection lending).

Summary

The asset conversion loan finances the temporary (seasonal) build-up of working investment above the level the firm normally keeps on hand. The loan is self-liquidating; it is expected to be paid back in full at the completion of the seasonal cycle with cash collected through the successful completion of the cycle and not with cash obtained through other short-term borrowings. The bank will lend on an asset conversion basis only when it is assured of the company's ability to mitigate business risks and convert the seasonal assets to cash in an amount sufficient to clean up the seasonal line borrowings. When the company's equity cushion is sufficient to absorb business risks, then the bank may be willing to lend on an unsecured basis. When the protection afforded by the equity cushion is weak vis a vis the risk involved, then the bank must take steps to improve its position as a creditor by, for example, requiring the company to obtain a guarantee for the loan, subordinate some debt, or assign specific assets as collateral for the loan.

The Logic of Asset Protection Lending

The asset Protection loan, as its name implies, finds ultimate justification in the value, relative to the amount of applicable claims, of the assets being financed. It thus is to be distinguished from loans made under the asset conversion and cash flow lending rationales, but, similar to these, is Protection primarily on the conviction that the borrower is one of sufficient integrity and capability to assure continuation as a viable business concern.

The objectives of this section are to:

1. Define the asset protection loan and to differentiate it from asset conversion and cash flow loans.
2 Identify and define the three central conditions upon which asset protection loans are justified, namely seniority, protection, and control, and to present the analytical basis for making the decision between secured and unsecured lending.
3. Discuss the means by which seniority, protection, and control are achieved in asset protection lending, especially in cases of secured lending, when the achievement of these conditions is particularly decisive in protecting the bank against loss.

Definition of the Asset Protection Lending Loan

As in all forms of lending, there are two issues of overriding importance: "what is the purpose of the loan?" and what is the source of payback?" when asset Protection Lending is the primary lending rationale justifying the loan, the asset Protection Loan can be defined as a method of financing that employs a short-term lending vehicle to finance a permanent credit need.

The short-term vehicle is often in the form of secured or unsecured demand notes, time notes, or bankers acceptances, and the permanent credit need normally consists of a stable but revolving level of current assets.

The paradoxical combination of a short-term lending vehicle and a permanent need has two implications for payback.

First, the loan is continuously rolled over there can be no genuine clean-up resulting from the actual conversion of assets to cash rather than from the substitution of the debt by other debt.

This is because the level of current assets is a fairly stable, or permanent; one, and although the assets themselves and their absolute level may be constantly changing, a severe reduction from necessary levels would seriously disrupt the firm's operations. A common exception to this general type of asset protection lending relationship occurs when the bank extends credit on a transactional basis. In such cases the loan is repaid with the proceeds from the completed underlying transaction. When the need for financing is continuous due to the rapid succession and simultaneity of numerous transactions, however, there will be no genuine clean-up of all borrowings required to finance ongoing working investment needs.

Second, bankers must look to the liquidation of the company or the collateral as the ultimate source of payback. The bank does not expect payback of an asset protection loan on an ongoing basis, but can justify the loan on the grounds that forced liquidation or bankruptcy would generate full payback.

Asset Protection contrasted with Asset Conversion and Cash flow Loans

The characteristics of the asset protection loan can be contrasted with those of the asset conversion, or seasonal line of credit, and the cash flow term loan. Seasonal lines finance a temporary build-up in current assets created by deviations in he timing of product demand or supply during the operating cycle. As long as the operating cycle progresses smoothly, the current asset build-up will self-liquidate from the conversion to receivables and cash, and will do so at levels sufficient to clean up seasonal bank borrowings. The seasonal line, then, is a short-term vehicle that correctly finances short-term financing needs and derives payback from the successful completion of the asset conversion cycle. The bank is financing the firm's inventory costs, and the credit is justified on the basis of the company's demonstrated ability to recover its costs in the completion of its cycle.

Term loans finance permanent assets such as plant or permanent working investment. In time, these permanent asset additions should generate sufficient incremental cash flow to amortise the loan. The principal form of this additional cash flow will be profits, but it can also take other forms, such as depreciation. The bank, then, is financing future profits, the probable level of which must be deemed sufficient to amortise the debt in order to justify the loan.

The asset protection loan can be viewed as hybrids of the seasonal asset conversion line (a short-term vehicle) and the cash flow term loan (a permanent financing need). As such, it would seem to violate a basic principle of tenor matching, which holds that long-term assets or asset levels should be supported by long-term funds, and vice versa. The asset protection loan is usually a short-term vehicle, however, for two important reasons:

1. Many companies, due to the nature of their business, do not generate cash flow at sufficient levels to amortize substantial amounts of long-term debt. Companies considered for credit eligibility under the asset protection rationale are typically high-volume, low value added concerns with relatively slim and volatile profit margins, and, accordingly, relatively low equity levels. For such firms, a term loan would be obviously inappropriate. Typical firms of this type are commodity traders, import-export concerns, and finance companies.

2. The volatile nature of such companies' operations favours the control afforded by a short-term vehicle. This nature usually dictates a rapid turnover in current assets and a high degree of unpredictability concerning prices, sales, profit margins, and the level and mix of current assets at any given point.

The primary distinction between asset protection and asset conversion loans, both of which are short-term vehicles, lies, of course, in the tenor of the financing need. In the latter cases, the need is temporary and the loan is paid down at the completion of the seasonal cycle. Such a clean up is impossible for an asset protection loan, because the need is a permanent

level of current assets. A temporary liquidation of such assets in order to clean up the loan would dislocate the firm's asset conversion cycle, or its rapid succession of asset conversion cycles, causing a halt in operations that could threaten the firm's status as an ongoing concern.

Asset Protection as a Secondary Loan Justification

To this point we have been discussing asset protection as the primary lending rationale to justify a loan. The asset protection loan finances a permanent level of current assets with a short-term lending vehicle.

The bank can also look to asset protection as a secondary source of payback for a loan primarily justified on a cash flow or asset conversion basis. In the case of a cash flow loan, the lending vehicle can be a term loan intended to be repaid out of cash flow, but the uncertainties surrounding the predictability of that cash flow are serious enough to disqualify the firm for unsecured term lending. Mortgage lending, shipping loans, equipment leasing, and other varieties of asset Protection financing provide examples of this form of lending. The bank can also finance additions to permanent working investment with a secured term loan, again when payback is expected from the incremental cash flow such additions be intended to generate. Yet, due to certain conditions, such as those characteristic of a firm's start-up phase, or rapid growth period, unsecured lending is not justified and the bank takes security in assets whose value assures payback in the event of bankruptcy or default.

Similarly, asset protection can provide secondary justification for a loan Protection primarily on a firm's seasonal needs, and which is expected to be repaid out of the proceeds from a successful asset conversion cycle.

However, due to the inadequacy of the firm's capital base to protect the bank against loss, the bank may take security in the assets to assure repayment under stress conditions. The assessment as to the adequacy of the protection equity affords the bank is made on the basis of a liquidation analysis, described later in this article.

Secured Vs Unsecured Asset Protection Loans

There are two broad criteria the asset protection loan has to satisfy for it to be creditworthy. The first criterion is that the corporate borrower's track record and outlook indicate that it will continue as a viable concern. Given the initial costs of starting a credit relationship, as well as the financial and image expenses involved in closing one, management integrity and competence are fundamental considerations in the decision to extend any credit.

The second criterion focuses on the fact that the ultimate source of payback for the asset protection loan is liquidation of the collateral, which can occur under several circumstances and to varying degrees. In the least drastic case, a company can scale down its operations and corresponding asset levels in order to limit risk or size to more manageable proportions. A portion of the firm's assets is then liquidated to repay some of the outstanding debt and reduce borrowing levels. More drastic is the case of an orderly liquidation of the entire company, in which all assets are liquidated to repay creditors as the firm goes out of business. Finally, there is the case of bankruptcy, in which creditors make claims against the firm's remaining assets.

There exist two mutually exclusive liquidation criteria that justify an asset protection loan. These are:

Either

1. The corporate borrower's true working capital (TWC = Current Assets - Total Senior Liabilities) affords sufficient asset protection to justify unsecured asset protection lending, or
2. The bank properly establishes and maintains a secured creditor's position in order to assure adequate protection when unsecured lending is not justified.

Because these criteria are mutually exclusive, the choice between unsecured and secured lending is pivotal in the overall credit decision. Before turning to an examination of the analytical method for making the unsecured/secured decision, it is necessary to define three underlying conditions that must be satisfied, albeit to differing degrees, in order to justify both unsecured and secured asset protection loans. They are seniority, protection and control, and are briefly defined as follows.

Seniority, Protection and Control

Seniority means that the bank is either explicitly senior to all other creditors by virtue of a legally enforceable secured claim against specific collateral, or is implicitly senior by virtue of an unsecured claim against an asset pool to which no other creditor has a prior secured claim and all unsecured creditors have equally senior claims. In secured lending it is said that the bank has seniority with respect to all other creditors, and in unsecured lending it can be said that the bank is pari-passu (on an equal footing) with all other senior creditors.

Although the specific legal issues and principles concerning the seniority of claims in bankruptcy will be treated fully elsewhere, it is necessary at this point to note the legal distinctions between secured and unsecured claims. A secured claim on pledged assets has first priority in bankruptcy with respect to such assets. As such, no other unsecured creditors are entitled to the liquidation proceeds of those assets until the claim of the secured lender is fully satisfied. Then, all unsecured creditors share the remaining proceeds on a pro-rata basis, relative to the amount of their respective claims.

Protection refers to value of the assets to which the bank looks for ultimate justification of the loan. In unsecured lending the net realizable value (the expected value of the assets in a liquidation scenario) of the asset pool must be sufficient to satisfy the claims of all senior creditors. In secured lending, the net realizable value of specifically pledged assets must be sufficient to satisfy the amount of the secured claim.

Control refers to the continuing process by which the bank's seniority and protection are monitored, maintained, and policed. Seniority is meaningless unless continuously valid and legally enforceable, as is protection unless continuously of sufficient value. Hence it can be argued that control looms as the most critical of the three conditions, especially when the loan is secured. Critical to effective control is an intimate knowledge of the company's operations, integrity, and managerial capabilities, and the structure of the facility should reflect such knowledge and thus assure adequate control.

Thus, seniority, protection and control are necessary conditions to justify both unsecured and secured asset protection loans. However, it must be borne in mind that the scope, burden, and importance of these conditions are considerably greater for secured loans than for unsecured loans. We will return to the means by which these conditions are achieved after examining the considerations that determine whether a loan should be secured.

Should the Loan be secured? Pro-Forma Liquidation Analysis

In deciding whether to take security for a loan, the focus is on the protection afforded by the value of the assets being financed. Will that value be sufficient to repay the bank in the event of liquidation? If the answer is negative under any and all realistic scenarios, then the bank obviously should not be lending at all, whether on a secured or unsecured basis. However, by taking a secured position the bank may be able to justify lending to a firm in a case that does not justify unsecured lending. This is because in unsecured lending the liquidation value of the assets must be sufficient to satisfy the claims of all senior creditors while in secured lending that value must be sufficient to satisfy the secured claim only. For example, consider the following simple balance sheet:

	ASSETS		LIABILITIES	
Receivables	100		Note payable - Banks	40
Inventory	100		Accounts Payable	130
			Equity	30
Total	200		Total	200

If we assume that the liquidation proceeds (net realizable value) of receivables would be 80, and of inventory 75, then the total net realizable value of the firm's asset would be 155 insufficient to satisfy total senior claims of 170. However, if Bank's loan of 40 were secured by pledged inventory, then Bank would be repaid out of the 75 NRV of inventory and secured lending would be justified.

Before examining the protection afforded by asset value, of course, it is necessary to justify the loan, whether secured or unsecured, under the primary criterion of viability as an ongoing concern. This requires that the firm's asset conversion cycles should proceed successfully such that trade and tax payable are satisfied promptly, and is a judgement Protection on an overall assessment of the firm's economic viability and managerial capabilities. Regardless of the protection one might consider to exist in the value of the assets, the firm must be judged viable on a continuing basis in order to justify bank exposure.

In comparing asset value to creditor claims, we are concerned with the liquidation value of the assets, that is, the proceeds we can reasonably expect to receive from liquidation at any given point. This quantity is known as net realizable and given point. This quantity is known as net realizable value (NRV), which is calculated by quantifying the shrinkage in stated asset value under distress conditions that might well prevail at the time of forced liquidation. The bank is concerned that the dollar amount of shrinkage might be greater than the firm's true

working capital (current assets minus senior debt), which acts as a cushion to absorb this distress shrinkage. Does the firm's working capital cushion provide protection sufficient to absorb such shrinkage and assure that all senior creditor claims will be satisfied out of the remaining liquidation proceeds at bankruptcy? If so, then unsecured lending is justified. If not, and the bank still deems the firm creditworthy as an ongoing concern, the bank must lend secured so that, in the event of bankruptcy, the bank will have priority over other creditors and has only to judge the adequacy of the NRV of the pledged assets to satisfy its claims.

The method employed to quantify the adequacy of true working capital and thus to screen the creditworthiness of actual and potential unsecured asset protection loans is called a pro-forma liquidation analysis. There are three steps:

1. Determine the risks in converting current assets to cash and attach shrinkage margins accordingly;
2. Determine the current asset level and mix associated with senior debt at high point usage;
3. Quantify the net realizable value (liquidation proceeds) of current assets and compare with the dollar amount of senior claims (principal plus accrued interest) at high point usage.

Steps 1: Determine the risks in converting current assets to cash and attach shrinkage margins

There are many considerations that help to quantify the expected distress shrinkage in current asset value, and they will be treated more fully later in this unit. However, the banker's expectations regarding potential causes of bankruptcy will be important determinants of expected risks and associated shrinkage in the value of current assets. Apart from extreme circumstances, such as fraud or totally incompetent management (when current assets may disappear altogether), bankruptcy may result from a dislocation of the company's cash-generating cycle. When this occurs, the company is unable to meet senior creditor obligations in a timely manner. Such a dislocation may be due, for example, to collection problems (receivable concentration), to production problems (strikes or supply difficulties), or to inventory problems (price, fashion, transportation, or obsolescence risks). The existence and extent of such risks in current assets will help determine both the probability of bankruptcy and the ultimate value of the assets in liquidation.

Note that a dollar's worth of true working capital in a finance company or a commodity company affords considerably greater asset protection than is true for a manufacturing company. This is because the finance company's current assets consist almost totally of receivables and because the commodity company's inventory consists of highly marketable staples, reducing the risks associated with work-in-process and fashion or obsolescence problems. Unlike a commodity or finance company, a manufacturing company's current assets face the whole spectrum of these risks. As a result, classical asset protection lending to a manufacturing company on an unsecured basis, and even on a secured basis, may be more difficult to justify on credit grounds. This does not mean that such loans cannot be justified; however, indeed, the bank extends many secured facilities to manufacturing firms. It does mean that because of the multiplicity of risks threatening the value of a manufacturer's inventory, careful analysis of all these factors is required in assigning shrinkage margins to inventory.

Once the risks have been identified and the quality assessed for each category of current assets, the risks are quantified by setting margins. The margins represent the expected shrinkage from face value in liquidation. If $100 A/R's have a margin of 10%, $10 will be the shrinkage in liquidation. It follows that the net realizable value (NRV) of each asset in liquidation will equal the face value less the expected shrinkage; in this case NRV equals $90. Each current asset category has an associated margin. General bank guidelines, to which there are exceptions in practice, indicate minimum shrinkage margins of 10% for receivables and 20% for inventory). Cash presents a problem. One school argues that cash will "disappear" altogether in liquidation so that the margin will be 100%. The other school argues that this is too conservative and that any operating cash will be available and used to pay off the more strident claims of creditors, thereby decreasing a senior liability. Therefore, it is argued the margin should be 0.0%. For our analysis we assume a 100% margin to cover liquidation expenses.

Finally, non-current assets are generally expected to afford no liquidation proceeds and receive a margin of 100%. In the typical unsecured asset protection situation, non-current assets comprise a relatively low percentage of total assets, and any proceeds can be expected to be small and can thus be ignored. (Generally those non-current assets should be financed by net worth or subordinated debt). Where non-current assets are significant and are financed by senior term debt, which requires a cash flow payback, it is most unlikely that true working capital will be adequate to justify unsecured asset protection loans. Under such circumstances non-current assets should be valued, especially if substantial hidden value exists (e.g. premium real estate) or where such assets serve as collateral for specific senior debt. This completes the first step since risks have been identified and quality determines for each asset category, and shrinkage margins have been quantified accordingly.

Step 2: Determine the current asset level and mix at senior debt high point

This high point consideration allows for the possibility that the bank loan usage may be greater during the year because of growth or Seasonality in demand or supply. This may not be apparent if the fiscal statements are drawn off at low point. At high point most or all of the company's bank loans are in use supporting additional current assets. The analyst focuses on high point since bank risk exposure is maximised (as is leverage) and the protection afforded senior creditors by true working capital is minimized. The dollar amount of true working capital will remain constant at high point, since the increased debt usage will be supporting additional current assets. However, true working capital at high point is supporting a higher level of liabilities and as such is a smaller percentage of current assets.

In the example below, the ratio of total senior liabilities to true working capital (working capital leverage) increases from 1.92 at fiscal date to 2.5 at high point, and the ratio of working capital to current assets (working capital shrinkage) decreases from .34 t0 .29.

Once the level of current assets and senior debt has been adjusted to high point conditions, the next task is to determine the current asset mix at high point under distress conditions. Since the risks and margins for each asset category are likely to be different, as described in step one, the choice of current asset mix will affect significantly their estimated net realizable value. With a seasonal company, current asset high point can be discovered from interim statements that show peak inventory build-up. If the company has a very stable cycle, the fiscal and interim statements may show that bank lines and usage are identical. If this is the case, there is no need to blow up the balance sheet to simulate seasonal fluctuations, but the analyst may want to weight the asset mix toward the particular current asset account that has the highest risk factor associated with it. In the case where a non-seasonal company has unused bank lines, these should be taken down for liquidation analysis.

In the example below we assume that the extra debt taken down at high point is used to support additional inventory, the least liquid asset. An alternative would be to take down unused bank lines and distribute the funds pro-rata among the existing mix of current assets. This method is usually less conservative but may be more realistic of high-point distress conditions where the risk is a "shock" to the operations of the company, such as inventory build-up due to a sudden collapse in demand, rather than, say, a scenario of inventory speculation. At this stage we have generated a pro-forma balance sheet showing what we expect the company's asset-liability level and mix to be at distress high point.

Step 3: Quantify the net realizable value of the current assets at high point and compare it with dollar amount of senior claims at high point.

Quantifying the NRV of current assets is achieved by multiplying the face value of each asset category by the shrinkage margins, which gives the expected dollar shrinkage for each category. Deducting the shrinkage from the face value gives the net realizable value for each asset category and the total net realizable value with senior debt at high point. As long as net realizable value is equal to or greater than senior claims (principal plus accrued interest), then senior creditors can expect full payback in the event of bankruptcy, assuming certain priority claims (taxes payable, etc) are not too substantial.

The amount of accrued interest due senior lenders can be calculated on the basis of the estimated time required to liquidate the collateral (sell inventory and collect receivables).

This period is roughly equal to the firm's asset conversion cycle (the sum of receivables and inventory days on hand) plus a cushion to allow for delays in shipping, selling, collecting, etc. For instance, if the firm's normal asset conversion cycle runs 60 days, one might want to allow for a 90-day liquidation period. To be conservative, it is assumed that the entire amount of principal remains outstanding for the length of the liquidation period.

In the example, net realizable value is $158MM and senior claims are $152MM, so that senior creditor is afforded adequate protection. When net realizable value is equal to or greater than senior claims, true working capital is sufficient to absorb the expected shrinkage in current assets.

Algebraically:

If TWC > Expected Shrinkage plus Accrued Interest

Then NRV > Senior Debt plus Accrued Interest

If TWC > Expected shrinkage plus Accrued Interest, then unsecured asset protection loans are justified Protection on adequate asset protection in the level of TWC under high point distress circumstances.

Example: Pro-Forma High Point Liquidation Analysis

Balance Sheet at Fiscal Date

($MM)

Assets		Liabilities	
Cash	10	N/P - Banks	75
A/R's	75	Accounts Payable	40
Inventory	90	Senior Liabilities	115
Current Assets	175	Net worth	100
Non-Current Assets	40	Total	215
Total	215		

Assumptions:

1. Shrinkage Margins:

Cash	100%
A/R's	15%
Inventory	25%
Non-Current Assets	100%

2. Total available bank lines (at prime): $110MM

   Assume all additional borrowings are used to purchase inventory.

3. Liquidation period: 60 days

   Average prime for period: 10%

High Point Balance Sheet

Assets	Shrinkage (%) Margins	Shrinkage	NRV	
Cash	10 100	10		0
A/R's	75 15	11	64	
Inventory	125 25	31	94	
Current Assets	210	52	158	
Non-Current	40 100	40	0	
Total	250	92	158	

Liabilities			Total Senior Claims
N/P - Banks	100 +	[(110) (.10) (60/360)]	= 112
A/P	40		40
Senior Liabilities	150		152
NW	100	Accrued Interest	
Total	250		

	Fiscal	High Point
TWC	60	60
TSL/WC	1.92	2.5
WC/CA	.34	.29
CA/TSL	1.52	1.4

Conclusion:

Since TWC > CA shrinkage + Accrued Interest

[$60MM > $52MM + $2MM]

and

NRV ----- Total Senior Liabilities + Accrued Interest

[$158MM $150MM + $2MM]

The bank is justified in extending unsecured asset protection loans to this company because true working capital affords adequate protection.

Other Applications of High Point Liquidation Analysis

Two related points can be made about the liquidation analysis.

First, the pro-forma liquidation analysis is not only valuable for screening existing loans but can be used as a marketing tool to determine how much extra unsecured asset protection debt the company's TWC could support. The answer can be discovered by applying the following simple formula:

Extra unsecured debt and accrued interest that could be accommodated by existing TWC = (NRV - Senior Claims) - margin for the riskiest asset that might be supported by the extra debt.

Applying this formula to the above example and assuming that the extra debt could be used to finance extra inventory under high point distress conditions, we can see that he extra unsecured asset protection debt and interest that could be accommodated by existing TWC is:

TWC = (NRV - Senior Claims) - Margin for Inventory

$$= \frac{(158 - 152)}{.25} = \$24M)$$

Therefore, this company could support an extra $24M of unsecured asset protection loans and interest payments without threatening full payout of senior creditors under distress high point conditions.

The second way the pro-forma liquidation analysis technique is valuable is in quantifying the extent to which the unsecured asset protection loan may be a "management loan". A management loan arises in the grey area situation where NRV is marginally below the high point level of senior debt so that senior creditors stand to lose some money. The question then becomes a two-fold one: 1) how much might the bank lose? And 2) are unsecured lending justified at all?

The above technique helps quantify the extent to which unsecured loans are not supported by TWC and therefore the extent to which we are relying on management to avoid losses. For example, assume that in the above illustration NRV was estimated at only $145MM instead of $158MM so that NRV could not completely satisfy all senior creditor claims. Under such circumstances all senior creditors would receive only $145MM or 95% of their claims (ignoring priority payments in bankruptcy).

Nevertheless, creditors may extend the full $150MM because of their confidence in management's ability to avoid the potential 5% loss. Under such conditions the unsecured asset protection loan becomes a management loan extended with the realization that in stress liquidation only 95% of senior claims would be satisfied.

The concept of the management loan should not be abused to rationalise weak credits. The management loan component of an unsecured asset protection loan should instead satisfy the criterion that management's track record, and/or new policies substantially mitigate the risks identified in the risk analysis and quantified in the liquidation analysis.

Secured asset protection loans, then, may be relevant under two general sets of circumstances: either the company has negative TWC or the pro-forma liquidation analysis indicates high point shrinkage in current assets in excess of TWC to such an extent that the management loan component of an unsecured loan proves unacceptable. Under these circumstances the banker's options, short of lending on a secured basis, include requiring the company to raise more equity, to subordinate some debt, to subordinate inter-company payables (as is quite common), or to obtain an external parent or subsidiary guarantee. The

dollar amount of equity injections and/or debt subordination necessary to create adequate TWC to justify unsecured asset protection loans can be quantified by the pro-forma liquidation technique. The guarantee option is beyond the scope of this article.

When these options have been explored without success, the banker can consider securing the loan in order to justify bank exposure.

Satisfying the Conditions of Asset Protection Lending: Seniority, Protection, and Control

While the conditions of seniority, protection, and control are absolutely essential for both unsecured and secured loans, their importance is especially crucial for secured loans. In an unsecured lending relationship, the firm's ability to absorb the shrinkage in asset value, or to cover business risk, has to have been demonstrated at the time of the loan. The bank must then assure that such a cushion exists on an ongoing basis and must be alert for signs that the firm's net worth may be eroding to a point at which the ability to absorb distress shrinkage is threatened.

When the bank has made the decision to secure the loan, however, it has concluded that such a shrinkage cushion does not exist within the firm as a whole, and therefore has created its own cushion by carving out a priority claim to specifically pledged assets. It is in these cases, that the bank must exercise the utmost vigilance in satisfying the conditions of seniority, protection and control by assuring, on a day-to-day basis, that its priority claim is valid and subordinate to no other and that the pledged assets are safe, accessible, and of sufficient value to satisfy the bank's claim.

Thus, for unsecured loans the achievement of these essential conditions, while equally important as justification for the loan, is more implicit and less active and burdensome than it is for secured loans. Seniority is achieved by assuring that no other creditor has a prior secured claim and, perhaps, through the borrower's negative pledge, by which he promises not to pledge any assets to other creditors in the future. Protection is demonstrated by a liquidation analysis that shows the existence of an adequate true working capital cushion, and control is achieved by continuously monitoring the status of that cushion and maintaining the seniority of the bank's claim. Intimate knowledge of the customers, attained through frequent and frank contact, forms the bedrock of effective control.

Although the specific methods of achieving seniority, protection and control for secured loans, many of which are legal and somewhat technical in nature, will be treated in much greater detail later, the basic methods and considerations are outlined below.

Seniority

This means that the bank must have a legally enforceable priority claim against its specific collateral. It is useless achieving asset protection if the courts will honour the claims of other creditors with the proceeds of the bank's supposed collateral.

The methods adopted to achieve seniority when the facility is structured are:

> Possession of title documents and/or cash collateral in the case of marketable securities, bills of lading, warehouse receipts, mortgages, etc,; in the case of non-possessory collateral seniority is commonly achieved by means of a security agreement between the bank and the borrower, by filing a financing statement under Article 9 of the Uniform Commercial Code and by release of possessory collateral under trust receipt.

In all cases of secured lending, it is essential that legal advice be sought in establishing a secured position that is legally valid and enforceable.

Projection

The collateral supporting the loan must first afford asset protection. This means that the net realizable value of the specific collateral, upon liquidation, must be sufficient to repay the bank's exposure. NRV may be less than face value for various reasons including price declines for marketable securities, commodities, real estate, etc. and discounts, delivery and other expenses necessary to liquidate the collateral. Bank exposure can be defined as principal outstanding plus accrued interest until the loan is liquidated less any legally off-settable deposits. If this goal is achieved the bank is assured that it will not lose money (assuming the other two goals are met).

The methods by which the banker can achieve this goal when the facility is structured are:

1 - Attaching margins to specific collateral to accommodate the expected risk shrinkage associated with that collateral. The bank only finances say 80% of the face value of the asset.

2 - Maximizing the level of legally off-settable deposit so as to minimize the net principal outstanding.

3 - Minimizing the time taken to liquidate the collateral (assuming constant NRV) to minimize accrued interest. Time typically erodes asset protection.

Control:

This means that the collateral, bank exposure and seniority are periodically monitored and closely checked so that the collateral existence and quality, as well as the banks claim to it, are continuously maintained within predefined loan conditions. Failure to realise this objective will ultimately jeopardize the achievement of asset protection and seniority.

The method adopted to achieve control can be divided into automatic and discretionary. Automatic controls are built into the actual structure of the facility. Example would include choice of a demand note as the financing vehicle, attaching tenors to trust receipts and acceptances, financing receivables on a notification basis, etc. Discretionary controls are more time-consuming and are supplemental to the facility structure. Examples would include request for and analysis of interim statements; more frequent collateral valuation and loans outstanding reports; spot warehouse checks and trust receipt audits. The extent to which discretionary controls are employed varies directly with the financial condition of the borrower.

Summary

In summary, we have defined the asset protection loan as a paradoxical combination of a short-term vehicle financing a permanent need. The logic of this combination was elaborated in terms of the unsuitability of seasonal lines of credit and term loans given the needs of both banks and many corporate borrowers. We specified criteria and tests by which to judge the creditworthiness of asset protection loans. Asset protection loans were considered justified when:

1. Confidence exists that the corporate borrower will continue as a viable, going concern, and
2. It can be demonstrated that, under distress circumstances, the bank will be adequately protected against loss by the liquidation value of the firm's assets. In unsecured lending, such protection is adequate when the borrower's true working capital provides a cushion sufficient to absorb all distress shrinkage and satisfy the claims of all senior creditors. In secured lending, the bank must properly establish and maintain a secured claim against specifically pledged assets of sufficient value to repay the bank if liquidation were necessary.