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Citation for published version (APA):

Soenen, L. A. (1979). Controlling the company's internal cash-flows. *Management Decision*, 17, 458-466.

Document status and date:

Published: 01/01/1979

Document Version:

Publisher's PDF, also known as Version of Record (includes final page, issue and volume numbers)

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
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Controlling the Company's Internal Cash-Flows

by Luc A. Soenen

The traditional profit centre concept of Management has a fatal defect. It concentrates attention on near term reported profit rather than cash flow. The two are not equivalent. Both short term and long term, they tend to move in opposite directions. Near term investment depresses near term reported profit although it may increase profit markedly later. Near term divestment frequently appears as near term profit but also often leads to liquidation of the business in the long run.

Therefore, in a dynamic market, current profit is a poor measure of performance. Any time market shares are shifting, then reported profit is a very misleading indicator of management success. The real measure of management success is the increase in present value of future net cash flows generated by the Company's businesses*, i.e.

$$\sum_{i=0}^N \frac{CFN_i}{(1+r)^i}$$

where, CFN_i = net cash flow of the company in year i , $i = 1, 2, \dots, N$

r = discount rate

Businesses, like products, go through a life-cycle. One usually distinguishes four stages in a business life-cycle: introduction (innovation), growth, maturity and decline. Businesses tend to be unprofitable when they are new (during the introduction phase and part of the growth stage) largely due to amortisation of R and D, heavy costs of promotion, and often initial price-setting below unit total costs to spur sales and to build up production volume that will be reflected in a subsequent drop of total costs per unit. They become profitable but undercapitalised when their growth is fastest. Finally, they are generators of cash when they have become successful and mature. However, high profitability of the business will induce surplus investment (new entrants in the business) which leads to price reductions and falling profit margins. The sequence can be schematically represented as shown in Figure 1.

The maximum growth rate of a company that is 100 per cent equity financed (no debt) and does not pay out any dividends equals the rate of return on the capital invested. In fact, annual cash generation for growth and investment comes from

*The term "business" does not necessarily correspond to a "narrow" definition such as a product or group of products; but it should rather be interpreted as a unit (e.g. a combination of product-market-distribution channel) for which relatively independent strategic decisions can be made.

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Figure 1

profits, net of dividends. Therefore, the maximum sustainable growth rate of a company is equal to the undistributed portion of the return on its investments (before interest and after taxes). In other words, the maximum sustainable growth rate = $ROI \times (1 - \text{dividend payout ratio})$.

Figure 2 is a representation of the maximum sustainable growth rate as a function of dividend payout ratio for a 100 per cent equity firm.

Similarly, in the other extreme case of zero dividend payments, the maximum sustainable growth rate of a company equals the return on its investments supplemented by the difference of the ROI with the interest costs of debt multiplied by its debt/equity ratio, i.e.

$$G = R + \frac{D}{E} (R - i)$$

where, R = Return on investments (after tax)

i = Interest rate (after tax)

$\frac{D}{E}$ = Debt/equity ratio.

In the zero debt case and no dividend payout, the sustainable growth rate equals the company's ROI (before interest and after tax). The sustainable growth rate is then an increasing function of the debt/equity ratio of the company (leverage effect),

assuming that *ROI* is larger than the after tax interest cost of debt. We can easily depict the maximum sustainable growth rate picture at different levels of indebtedness with zero dividend payments given the interest rate (say four per cent after tax):

In general, the maximum sustainable growth rate considering both debt and dividend payments can be summarised as follows:

$$g = \frac{D}{E} (R - i)r + R \cdot r$$

with D/E = Debt/equity ratio

R = ROI (after tax)

i = Interest rate (after tax)

r = Retention rate of after tax profits, or $(1 - \text{payout ratio})$

If we make the implicit assumption that a company wants to grow at the market growth rate in the hope of maintaining its actual market share, then, as long as the growth rate of the business is larger than its return on investment, extra cash will be required to invest in this business. The rate of reinvestment equals $\frac{\text{growth rate}}{ROI}$. For example, a business X grows at ten per cent per annum and generates eight per cent on the capital invested. The total assets of the business are 100, financed by 50 per cent debt at ten per cent interest and 50 per cent equity. Its dividend policy consists of paying out half of the annual net profits.

Table I

Year	1	2	3	4 ...
Assets (10% gr. rate)	100	110	121	133.1
Revenues	8	8.8	9.68	10.65
Reinvestment	10	11	12.1	13.31
CFN (net cash flow)	(2)	(2.2)	(2.42)	(2.66)
CFN (cumulated)	(2)	(4.2)	(6.62)	(9.28)

The sustainable growth rate of business X can be arrived at by application of the formula[1]

$$g = \frac{D}{E} (R - i)r + Rr$$

or,

$$g = \frac{50}{50} \left(8 - \frac{10}{2}\right) 0.5 + 8 \times 0.5$$

$$= 5.5\%$$

Its sustainable growth rate is 5.5 per cent, while the real growth rate of the business is ten per cent. To regain financial equilibrium, the company needs to attract extra capital. The external capital which costs the least is debt.

The total net cash flow for business X at end of period ONE is composed of:

—generated cash flow (IN-OUT): $8 - 10 = (2)$

—net interest paid: $\frac{1}{2} \times 50 \times 10\% = 2.5$

—dividend payout: $0.5 (8 - 2.5) = 2.75$

⇒ Total cash flow net = (7.25)

Assuming the company issues debt for 7.25 to cover this liquidity gap, then the marginal rate of indebtedness is equal to $\frac{7.25}{2.75} = 2.64$, and the Debt/Equity ratio at end-of-period equals:

$$\frac{50 + 7.25}{50 + 2.75} = 1.08$$

Although this probably would not create any constraints on the company, the question remains for how long such a situation can be sustained? When will the business (if ever) turn out to be a positive net cash generator and to what extent will it be able to recuperate the capital invested? Moreover, debt is limited for the unsecured independent business which is pyramiding its risk and its hope for future return. In fact, the net cash flow of a business is essentially a function of two variables:

- (a) The competitive position of the company in this business (relative market share) which determines its relative cost and also its profit level (*Cash Resource*).
- (b) The growth rate of the business which determines the rate of (re-)investment required to maintain (or improve) its relative position in the market (*Cash Use*).

Considering the growth rate and competitive position, we can rather easily classify a business in one of the four following categories[2]:

A. Fast Growing Businesses[3]

Fast growing businesses require a lot of cash to keep up with the general market growth rate and eventually to gain market share against its competitors. Type A-Businesses are therefore cash drains on the company. Depending upon the relative competitive position of the company (relative market share) in this business we can distinguish two types of businesses:

- (A1) Those type A businesses in which the company has a strong market share, i.e. is the leader in the business (say at least 1.5 times the size of its follower). These businesses will generally not only use a lot of cash but also generate plenty of cash. The net cash flow often being close to zero.
- (A2) Those type A businesses in which the company has a small market share, i.e. the follower in the business (say at least smaller than the market leader). These businesses are characterised as heavy users of cash and weak generators of cash, i.e. having in general a significant negative net cash flow.

B. Slow Growing Businesses (including zero-growth and negative growth businesses)

Slow growing (or declining) businesses do not require such high cash investment compared to type A businesses, and should be positive net cash generators. It is more difficult to gain market share in a slow moving or declining market since it actually means taking market share away from your competitor(s).

This is typical of businesses in their maturity phase. As time evolves, their profitability slowly falls as intense competition leads to price reductions and falling profit margins. However, the absolute amount of profits is proportional to the relative market share of the company in the type B business. High market share means high production volume (economics of scale and "experience" effects)*, lower unit total cost, higher profit margin. In a more general context accumulated experience, i.e. historical cumulated production, determines relative costs and consequently profit margins and thus also competitive position measured in terms of market share.

Depending on the relative market share we can again make a distinction between two types of businesses:

(B1) A type B business in which the company has a strong market position (i.e. market leader). These businesses are usually the main source of positive net cash generation to the company.

(B2) A type B business in which the company has a weak market position. B2-businesses neither require larger cash inputs nor generate a lot of excess cash.

The four different types of businesses can be represented in a market growth—relative market share matrix, superimposing cash utilisation and cash generation on the axes of the matrix:

It is obvious that most companies have their different business segments spread over the four quadrants of the matrix, the particular location of each business being determined by its market rate of growth (life-cycle status) and the company's relative

*"Experience effects" refers to a combination of factors which usually explain why unit total costs go down with accumulated experience (production, selling, etc.). These factors consist of learning effects, economies of scale, cost rationalisation, and technological innovation resulting from R and D.

market share in that business. Therefore, all the company's businesses should be considered as being part of a portfolio which must provide the necessary funding by mutual support of businesses at different stages of the cash flow cycle. The need for a portfolio of businesses becomes obvious. To be successful, a company should have a portfolio of products with different growth rates and different market shares. Every company needs some products in which to invest cash, and therefore every company also needs products that generate cash. Only a diversified company can establish a balanced portfolio, i.e. a balance between the internal cash flows of the company. Some general financial decisions can be derived from the portfolio concept:

- The company's business(es) which are net cash generators (typically B1-businesses) should be a major source of funds for reinvestment in promising businesses (essentially A2-type businesses). The basic belief is that increased investment in an A2-business will enable the company to increase its market share and shift it to a strong position in the form of an A1-business. As the market matures, and its growth rate declines, it will become a B1-type business, a source of cash to the company available for reinvestment in the company's cash flow cycle.
- Every product should eventually become a net cash generator, otherwise it is worthless. This is often the case with B2-businesses, i.e. slow growing or even declining markets in which the company has a small market share (super dominated). In those cases, the best financial strategy is to divest and make use of the liquidation value for reinvestment in more promising businesses. However, some B2-businesses might generate a small profit, and they can be held in the company's portfolio as an additional source of funds. The only problem is that the company has no control over the future behaviour of such business cash flows because of its dependence on competitors behaviour due to its weak market position.
- In redistributing reported profit a company should be extremely prudent to avoid reinvesting in so-called "cash traps", i.e. typically fast growing businesses requiring a lot of cash investment in which the company has a weak market share and is deemed to remain dominated notwithstanding the heavy and long-term cash commitments it might make to them. "Cash traps" will absorb more money forever than they will generate. They do not generate and will never generate net cash unless upon liquidation. Therefore, "cash traps" should be liquidated and the resulting funds reinvested.

Conventional long-term planning often differs from the portfolio approach as it treats the company's businesses separately. Usually, a five-year plan is made by product or division; then consolidated at the overall corporate level and often modified on the basis of global budget constraints. A failure to consider the dynamics of the internal cash flows among the company's businesses may lead to business failure in the future. A simple example will make this statement clear:

A company has two A2-type businesses, say *X* and *Y*. The company has a shared leader position in *X* which is moreover a fast growing business (e.g. 17 per cent per annum). It is dominated in business *Y*, say half the size of the leader, which is a slower growing market (e.g. 10 per cent per annum). The conventional five-year plan will favour the growth of both businesses, within the limits of the total available budget. Considering the more favourable market position in *X*, they decide to give priority to grow in *X* at pace with the market. This implies a curtailment of the funds available for *Y* to be able to grow at the same rate of the market. Assume the remaining funds allow a maximum growth of six per cent for *Y*. The six-year plan is in Figure 5.

Figure 5

The expected situation at the end of the five year period looks as follows:

- (1) The company has gradually become super-dominated in *Y* as it was unable to keep pace with the market growth. *Y* has turned out to be a worthless business, i.e. it does generate very small amounts of cash but it often becomes a cash user rather than a source of cash. It becomes a candidate for liquidation as it did not, nor ever will, recuperate the cash invested.
- (2) As the market for *X* has reached maturity and its rate of growth was slowed down, there is a very good chance that the company became a follower rather than a leader in this business (another B2-type business). In fast growing markets companies tend to overinvest and to build up overcapacity. In such cases, it is to be expected that at least one competitor will invest at a rate higher than present market growth rate.
- (3) It would have been much better for the company as a whole to put most of its financial resources into *X*, shift it to an A1-type business (a distinct leader in the business) and as the market matures it would become a B1 net cash generating business. This strategy would imply a gradual liquidation of *Y*, using the cash recuperated for investment in *X*.

In conclusion, the strategic decision has to be made at both the level of the individual businesses, and the over-all company level. Per type of business three strategic options have to be considered: growth, survival and liquidation. To each selected strategy corresponds a cash flow. Once the strategic decision and related cash flow per business has been made, one has to determine consequently the financial needs at the corporate level: is the portfolio in equilibrium, is there a lack of capital to finance company growth or is there a surplus of cash for which suitable investment opportunities have to be considered?

References

1. "Capital Structure Optimization", a special commentary by The Boston Consulting Group Inc., Boston, p. 14 and Weston, J. and Goudzwaard, M. (eds.), *The Treasurer's Handbook*, Dow-Jones Irwin, Inc., Homewood Ill., 1976, Ch. 30.
2. This classification of businesses based upon relative market share and market growth rate is similar to the one originally developed by The Boston Consulting Group Inc. See, "Perspectives on Experience", The Boston Consulting Group Inc., Boston, Mass., May 1970.
3. Growth businesses are sometimes characterised as those businesses growing at ten per cent (or more) per annum. The ten per cent may not be interpreted as an absolute cut-off rate. The main idea here is to make a distinction between slow and fast growing businesses compared to the average industry growth rate.