From Nutricia to Numico: Valuing a Pan-European Acquisition

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Abstract

The Dutch baby food firm Nutricia acquired the a little smaller, but also working at a Pan-European scale, German headquartered Milupa business in 1995. This merger assured the continuity of what is named Numico now. The financial modelling rested on four pillars: 1) a balanced corporate strategic vision, 2) a detailed knowledge of production processes, 3) a deep understanding of Milupa’s books and 4) removing subjectivity in the numbers. The capital investment selection primarily occurred in accordance with the capital markets theory: the IRR method was favoured. Multiples methods served to establish contacts with financial markets. The case in itself is exemplary for the corporate financial valuation with takeovers. It establishes that communication between economic science and corporate practice has to improve. Focal areas include linking production strategy to finance along a process approach, constructing cash flow valuations starting from accounting perspectives, applying long-term hurdle rates of various nature and schematising a wide array of selection methods holistically.

1. Introduction

Most of the cross-border investments by European firms are still made in the old continent. Due to the advancing European unification, these are not typically foreign anymore, however. This especially counts for within-continent takeovers in Europe, which are right in between “normal” home country takeovers and “exotic” foreign takeovers. Such a capital investment has both general and country-specific aspects, the latter referring to production techniques, distribution channels, financial reporting, financial structures, legal constructions etc. This article pictures the capital investment selection with a striking Pan-European acquisition by a typical European firm: Numico. It was the product of a merger between the Dutch baby food firm Nutricia and the a little smaller Milupa business of the German Altana firm. As a result, Nutricia was not a sure takeover target anymore and Numico jumped in the top 2 in many European countries. It is interesting to see how financial valuation with such a merger is done, to find out what may be added or ditched from literature on financial economics.

In this article, financial acquisition valuation with Numico is discussed. However, we will not describe the financial homework of the firm in detail, but focus on the corporate decision-making process instead. Many external documents were studied, including interviews, share price quotes and press releases. Corporate financial officers allowed personal interviews and commented on in-depth written statements. A base document was crosschecked with various experts and similar cases. In this extensive way, triangulation of data took place (Yin, 1994). The major advantage of the research strategy was that timely information could be assembled. A distinction between financial acquisition modelling and capital investment selection methods is made here. A conceptual framework on financial valuation of acquisitions will be given next in section 2. Financial valuation with Numico is described case-wise in section 3. Discrepancies between the approach by Numico and financial economics literature will be discussed in section 4. Conclusions and recommendations will finalise the article in section 5.

2. Financial valuation

The financial valuation of an acquisition (or any other capital investment) consists of two quite distinct parts. Firstly, a financial representation has to be made of the effect of the new activities on the value of the (old) investing firm. This refers to the design of modelling activities, the make-up of profits, cash flows and balance sheet items, as well as the determination of hurdle

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rates. After the financial modelling, capital investment selection methods are applied for assessing economic value creation. Accounting methods, discounting methods and shareholder value methods are available. Just as with the analytically preceding strategic analysis, financial valuation basics will have been predetermined, at least in case of professional investor applications. Thus, capital investment selection is largely about filling in an already given design. The outcome of the financial valuation for the firm determines whether a takeover at hand is expected to be financially feasible. The rest of this section will elaborate on both financial modelling and capital investment selection methods.

**Financial modelling**

As to the design of the financial modelling, three aspects are particularly important (cf. Schloesser, 1992; Copeland, Koller and Murrin, 2000). First, the framework of the main model (which may make use of data from sub-models in turn) sets the outline for the process. Models can be developed under private control, acquired from various allies or bought from third parties. Modifications can be made case-wise. Second, one may refer to the extent of experimenting with financial models. Both sensitivity analyses and scenario analyses may be utilised. Model analyses may bear a basic character, or may be advanced, performed by skilful users instead. Last, the financial forecast period employed is a distinguishing feature. This period reflects the field of vision of a firm planning in the future. The term may increase from a few years up until twenty years, or alternatively be swiftly accommodated by the user.

As to the determination of (parts of) profits, cash flows and balance sheet items, it is essential to know the starting point of view of the firm. The standard literature delineates accounting approaches and economic approaches (Schloesser, 1992; Copeland, Koller and Murrin, 2000). Accounting methods make use of financial reporting formats. If economic cash flows prevail in the analysis, a direct method should be employed in principle. Requirements around the alignment of internal and external reporting prohibit this, however. Cash flow statements will therefore always ask for a profit analysis. The balance sheet, as a Siamese twin of the profit and loss account, will also play a more or less outspoken role then. All financial statements can be normalised: they may refer to an average and stable situation. Alternatively, a certain planned growth may be presupposed. A last attention point concerns the terminal book or cash flow value of the acquisition after the forecast period employed. Because this may determine a large part of the value, it is important whether and how this is calculated.

In certain cases, (profits and) cash flows are discounted. In line with both accounting and economic approaches, time value and risk can be implied in acquisition decisions. The basis used for hurdling counts here (Schloesser, 1992; Walsh, 1996). It may be a cost of debt ("our interest rate"), a cost of equity ("our ROE") or a weighted average cost of capital ("our ROI"), whereby indications in brackets refer to accounting measures in use in practice. Charges may be put on the base rates. Hurdle rates may be set more or less arbitrary. Benchmarking with figures of comparable firms may be utilised. Alternatively, private calculations may be made somehow, for example applying the Capital Asset Pricing Model (CAPM). Specific conditions may be allowed for, such as the sector or country invested in, when finalising the financial modelling heuristics. The design of the model, the determination of profits, cash flows and balance sheet items and the way that hurdle rates are set, lay the foundation upon which prospective acquirers may eventually employ capital investment selection methods.

**Capital investment selection**

As long as modelled profit and loss accounts will form the basis of financial valuation assessments, acquirers will always implicate accounting selection methods in their judgments. Besides the stand-alone value of the new activity, allowing for benchmarking with existing internal businesses, the acquirer can assess synergy effects separately as well (Sirower, 1997). A wide array of ratios can play a role in the financial valuation (Walsh, 1996). One may refer to operating

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1 The use of real options value methods and game theory methods is still very limited in practice (Graham and Harvey, 2001).
physical and financial ratios (such as volumes, sales, margins, profits and cash flows), as well as diverse kinds of returns on investment (return on sales, return on capital employed, return on equity, etc.). The effects of an acquisition on corporate liquidity and corporate solvency may also count as measures of financial valuation. Break-even points and payback periods can be calculated by adapting data just referred to. Furthermore, book values on for example net assets and total equity, as well as financial multiples such as net profit per share and price to equity, can also be rated as accounting selection methods for acquisitions.

The financial value of an acquisition can be assessed adopting discounting methods favoured by capital markets theory. We discuss four kinds of methods (Walsh, 1996; Copeland, Koller and Murrin, 2000). The present value of discounted cash flows is calculated with the net present value (NPV) method. The internal rate of return (IRR) method is used to express a cash flow return as a percentage. Flow to equity (FTE) methods can be applied by discounting profits or dividends. The adjusted present value (APV) method allows for unbundling of cash flows. The free cash flow (FCF) approach of Rappaport (1986), the Economic Value Added (EVA) method of (Stern) Stewart (1991) and the Cash Flow Return on Investment (CFROI) method of Madden (1999) are NPV method applications that gain interest. These shareholder value methods emphasise strategy, financial reporting and management control respectively.

3. Financial valuation with Numico

Financial modelling

Nutricia was as a latecomer invited to bid on the Milupa business in summer 1995. At first, technical and economic calculations were made at the “back of an envelope”, being continuously refined later on. Former financial director Mr. Van Veen dictates: “calculate like a bookkeeper”. Calculations make the insecurity felt decrease. Numico’s Head of Business Economics and Reengineering Mr. Van Berckelaer affirms: “Calculations can be made in any direction, but you must make them. You have got to sense what it is all about and you should know the big buttons. Slack in the numbers will remain, but remove the subjectivity”. Private technical, economical and financial models support advanced standard software delivered by a renowned consultancy firm. Multiple perspectives can be used into various depths, shedding light on what is metaphorically compared with a crystal ball. Graphical representations are found to be instructive. It is considered if, as Mr. Van Berckelaer puts it, “outcomes are in or out of my border lines”. Limits are not set in advance, but are intuitively felt, though.

Nutricia calculated various synergy effects of the Milupa merger. These included capitalising on the renowned German brands (Milupa’s margins thereon had been falling) by introducing new products and packaging methods. Corporate overhead costs would fall when moving Nutricia’s Central European headquarters from The Netherlands to the Milupa headquarters in Germany. Milupa’s control structure could be stretched by improving accountabilities and by breaking up the detached corporate culture (the atmosphere at operational levels was fine, though). Milupa’s baby milk cost price topped Nutricia’s by about a quarter. A severe chain control in the raw materials production would enable a far-reaching cost control at the activity level. Milupa’s German factories coped with a high purchase price of basis powder. Cheap Nutricia factories could step in here. A small Nutricia grain plant could be integrated into one of Milupa’s. Some production was to be shifted to low-cost countries. Certain R&D activities of the firms were combinable. A mutual legal procedure on Nutricia products could be halted.

When ‘reconstructing’ the profit and loss accounts of the Milupa business (mainly brands and works), several incidental and irrelevant items (such as loss making activities) were removed. A complicating factor was that Milupa did not distinguish between fiscal and economic reporting. The various budgets were consolidated per country and diverging reporting rules were used. Mr. Van Veen comments: “The story did not come to an end. Where was the profit anyway? How can one manage a firm like this?” Feeling for ‘the business’ was thus important for evaluation. Mr. Van Berckelaer concludes: “one has to pull away the business case from under the financial figures”. Therefore, discussions were held with diverse Nutricia officers as to the course of operating
ratios both in time and at various occupation levels. Nutricia also benefited from knowledge just gained when examining her business units. Following, the due diligence at the spot was targeted towards doubtful debtors, provisions and operations. The latter especially refers to management quality and works quality.

Financial performance evaluation of the Milupa activities mainly occurred using activity ratios. Milupa’s ‘return on sales’ (ROS) had aggravated from 3% (corporate budget figure for 1995) to presumably 0% (cumulative result until September 1995) in just a brief lapse of time. With net sales of some 1 billion Dutch guilders (about € 450 million), Milupa achieved a net profit of just NLG 16 million in 1994. Milupa suffered a loss in the first nine months of 1995, which could be bent up in the following months, though. The operating profit (‘EBIT’) potential for synergy would be about NLG 150 million. The operating profit margin could rise from 3,3% to 10% in five years, as Nutricia herself had a margin of 11,9% in the top year 1994. Nutricia forecasted to earn at least NLG 40 million with the Milupa activities in 1996.

The results of the old Milupa were not just forecasted if left on her own, but also if the activities would be consolidated in the future Numico. Besides sales and costs just dealt with, assets and liabilities mattered, when assessing the Milupa business financially. More than about intrinsic values (liquidation values were not determined) of the Milupa activities, it was all about the forecasted expanded balance sheet of the enlarged Nutricia herself. As Milupa was performing badly recently (and even nearing a loss), while a deterioration of Nutricia’s solvency could be expected as well, a fall of the price to earnings (P/E) ratio of the Nutricia share would be inevitable. A limit as to the corporate share price was set, which had not to be undercut in the calculations. After the acquisition Nutricia’s share price did indeed drop for a short while, but recovered quickly afterwards as the potential of the merger came to the fore.

Numico calculates the value of investments on the basis of an advanced software package. Calculations are built up along a strategic value management pattern, which puts free cash flows in the centre of interest. Besides operational cash flows that were already discussed above, fixed assets and working capital investments are weighty cash flow analysis elements. It is not just about internal (‘stand alone’) values here. Numico especially pays attention to (‘synergy’) effects of joining the acquired firm and the private firm herself. Terminal values are mostly not allowed for anymore after the long forecast period employed. If taking the high corporate hurdle rate into account, these cash flows are negligible anyway, as a matter of fact.

Numico internally utilises a hurdle rate the firm thinks to be high. This rate is not directly related to the CAPM used by for instance investment banks, but consists of the sum of the corporate debt rate and a surcharge on this rate. A painstaking calculation of discount rates can only be of limited use, according to Numico. Mr. Van Veen claims in this respect: “One can posit a β-coefficient of course, but this just brings about a spurious objectivity”. The business profiles of Milupa and Nutricia matched, while currency risks and political risks were almost absent. Usually, hurdle rates do not depend on the country of investment, but required rates of return can be adjusted upwards for very risky investments outside Europe.

Moreover, in this respect it was considered, what effects the Milupa merger would have had on Nutricia’s average corporate tax rate. This rate was about 26% at the time and seemed to change just a bit. It was actually expected that the average tax rate would rise autonomously, but fiscal acquisition allowances (to be partly structured as an asset deal) were also foreseeable. Assuming a financial structuring track aiming at the issuance of a convertible loan, the consequences for financing ratios would remain within limits set in advance. The gearing would fall below 40% only temporarily, at an interest coverage ratio of over 4½. “One has also got to keep an eye on the profit per share here”, Mr. Van Veen explains.

The forecast period is set at fifteen years in the software program, but can be amended easily by the user. Of course, the development of the results is also thought to be relevant after a shorter period of for example five years. Numico often runs calculations utilising three scenarios that presume either optimistic, or expected, or pessimistic circumstances. Not just the advanced software program, but also private technical-economical models and financing models created ad hoc offer many opportunities for (graphical) sensitivity analyses. As a consequence, these were
applied at the Milupa takeover, in order to find out if unexpected slipperies would be feasible. Benchmarking with internal business units was also facilitated this way. The internal communication and the negotiations were also supported by these perceptions. Lastly, intended operational decisions could be backed up with the analyses.

**Capital investment selection methods**

The capital investment selection methods utilised by Nutricia at the time were diverse. Firstly, synergy effects were important. Secondly, multiple operational and financial ratios were judged. These regarded for example costs per capacity unit and the ROS. Because the return on capital employed (‘ROCE’) was budgeted and reported for all business units at the time, this ratio was also considered as having much use. The payback period of cash flows also mattered. In words of Mr. Van Berckelaer: “Yes, it does tell us something”. The software package used also offered the opportunity to take payback periods at diverse hurdle rates into account. The IRR could be calculated this way. Financing ratios as to financing costs and solvency played a certain role at the investment selection too. Finally, the profit per share of Nutricia and the development of her P/E ratio offered utilisable information as well.

Nutricia paid 820 million German marks (about € 400 million) for the purchase of the Milupa business of the Altana firm. Nutricia’s CEO Mr. Van der Wielen claimed this to be a bargain deal, because of the potential of Milupa would offer. If Milupa had been run the way Nutricia was, her value would have been over € 1 billion, he told the press at the deal announcement. However, the price was reasonable to his mind: “We are a highly profitable club and Milupa is in trouble” (NRC Handelsblad, August 25, 1995). About two thirds of the purchase price was used for goodwill. Goodwill charges (especially in Germany and Italy), intra-firm royalty payments, as well as reorganisation costs (because of a restructuring) were fiscally allowed. Nutricia immediately wrote off goodwill from net equity at the time, following the European practice. All in all, the profit per share did not fall after the deal had materialised.

**4. Numico practice and the literature**

Above, the view of Numico officers on financial valuation of acquisitions was expressed, using the vitally important merger of Nutricia with Milupa in 1995 as an example. The case was described along a process framework. We exemplify Pan-European acquisitions from a financial management angle. Generic strategic and financial concepts are applied to a specific takeover. Financial modelling shifts from making preliminary calculations to advanced model testing. Stand-alone values and synergy values are empathising assessed. Accounting and economic capital investment selection methods are applied, favouring the latter in the end. Discrepancies between Numico’s financial modelling practice and the financial economics theory include the process of linking production strategy to financial modelling, the way of building up both profits and cash flows coherently, as well as the application of various financial hurdle rates. The schematising of capital investment selection methods differs too.

**Financial modelling**

Strategic aspects of the Milupa-takeover have been largely neglected here, given the scope of this article. Numico both assesses the competitiveness of a business as it stands, as well as the synergy effects of an amalgamation. The first is essentially about painstakingly ploughing the target’s books and framing the outcomes in private models. While the latter are recognised by the financial economic literature, warnings are raised that synergy effects may not materialise. Research by the Boston Consulting Group (Kotzen, Neenan, Roos and Stelter, 2003) points out that acquirers create value through operational improvements on cash flow margins and asset productivity, whereas financial improvements are likely when taking over firms with a healthy financial position. McKinsey research reveals that one should be suspicious about revenue (dis-) syner-

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1 In fact, the price of a Nutricia share did fall at the announcement date, but recovered quickly after the market recognised the merger gains.
gies, benchmark revenue and cost assumptions with market realities and be realistic about one-time costs and synergy timing (Christofferson, McNish and Sias, 2004). Numico also did not reap all of the revenue and cost synergies of the successful Milupa-deal.

Anyway, the remark by Numico’s Mr. Van Berckelaer about pulling away business cases from under financial figures is about more than just converting strategic stand-alone and synergy assessment into financial values. Firstly, it recognises that financial figures of target firms may be so distorted from acquirers’ viewpoints that links from technical basics to financial valuation must be re-established. It is all about finding out what may be done where and how. This does not go without deep understanding of production processes. Secondly, analyses on potentials of value chains cannot be made just from accounting or economic books, but have to be rooted in competencies and capabilities directed external and internal studies. Strategic value management concepts do recognise all of this in principle (Damodaran, 1998), but non-case-wise specifications are largely left to acquiring firms, investment banks and consultants.

As Mr. Van Veen notes, one should calculate on acquisitions like a bookkeeper. This refers to meticulous financial modelling, which helps to get hold on a deal. Starting from financial statements analyses, economic valuations should be built up. Glimpses on financial essentials help to fill in a mental framework. This is readily converted into basic calculations of profits and cash flows, to be refined in a chain of spreadsheets afterwards. Multiple testing concludes the analysis. The administrative angle is obvious: the slack ribbon between ‘accountants’ and ‘economists’ should be tightened. This is not just about changing accounting rules, initiated by the introduction of IFRS standards. Unsolved technicalities also preclude unambiguous valuation of leases, goodwill write-offs, provisions, taxes, cash etc., especially in an international transfer pricing setting (Copeland, Koller and Murrin, 2000). Again, apparently firms (recall Nutricia’s tax model) and accountants (not just ‘the Final Four’) take a lead here.

Numico’s multiple hurdle rates are applied to sales margins, asset returns, interest coverage, share profits and earnings prices, as well as ultimately on present values of operational cash flows. Numico evades cost of capital calculations with high hurdle rates on discounted cash flows. According to Mr. Van Veen, this is done because highly volatile β-coefficients create a spurious objectivity. This can to some extent be corrected by widening time horizons, such as recent research on equity premiums in major countries shows (Dinsson, Marsh & Staunton, 2003). However, referring to the recent internet bubble, one may leave out extreme periods entirely (McKinsey, 2003) at times of economic system shocks or corporate restructuring. Whether a ‘global’ or ‘local’ CAPM should be used, is still open for debate (Stulz, 1999; Koedijk and Van Dijk, 2003). One may also think of a ‘European’ CAPM here. Lastly, we refer to the unsolved, but of lessening importance, currency risk and political risk treatment.

**Capital investment selection methods**

While giving priority to discounting methods for acquisition valuation, Numico keeps an eye on accounting capital investment selection methods. She could use the NPV method instead of the IRR method for valuing discounted cash flows. However, this would induce CAPM calculations that she wants to evade. The FTE and APV methods do not help, as they bring about calculation problems (Booth, 2002). Anyway, Numico’s target debt ratio calls for the NPV method, making FTE and APV methods obsolete here. If applicable, private company discounts (Koeplin, Sarrin and Shapiro, 2000), diversification discounts (Doukas and Kan, 2004) and control discounts (Finnerty and Emery, 2004) may be taken into account too. Quite a few complications must be overcome before firms give up their rules of thumb, though.

Nutricia did apply a shareholder value approach à la Rappaport (1986) when valuing Milupa. While advanced shareholder value calculations metrics are heavily debated in a discussion on an alleged ‘death of beta’ (Fama and French, 1992; Biddle, Bowen and Wallace, 1999; Feltham, Isaac and Mbagwu, 2004), traditional market valuation multiples are revalorised (Arzac, 2005). Numico does also use a large variety of valuation multiples, such as the P/E ratio and the ROS. This is done because of the manifold information implied in these metrics, which might be useful for acculturation especially outside the firm. By also looking at the gearing, the ICR and the
payback period, Numico realises that investing and financing may be intertwined. A Pan-European acquisition setting may be debit to this (Shapiro, 1988).

This brings us to a last issue on financial valuation methods. When the merger of Nutricia and Milupa was digested, Numico’s financial strength enabled an expansion of scope. At the time, Nutricia did not use real options analysis (ROV) when valuing the Milupa-deal. Leaving aside troublesome strategic foresight issues, this can be defended on grounds of academic progress at the time. Some practical application shortcuts have been developed recently (Luhmann, 1997; Copeland and Tuffano, 2004). However, questions as to filling in ROV models remain, especially concerning needful volatility assumptions. While taking into account corporate gaming issues (Smit, 2001), our case gains both in realism and in complexity. Numico’s unfortunate and just unwinded diversification in notably the US nutritional supplements business learns that options and game values may not always have an upside potential when valued post-date.

5. Conclusions and recommendations

The Dutch baby food firm Nutricia acquired the almost equal, and also working at a Pan-European scale, German headquartered Milupa business in 1995. For a long time, this merger assured the continuity of what is called Numico now. The case in itself is exemplary for the corporate financial valuation with takeovers. We discussed both financial modelling and capital investment selection methods, applying a process framework derived from standard financial economic literature. Numico’s financial modelling is grounded upon a vision of stand-alone and synergy values, an in-depth knowledge of production processes, a deep understanding of a target’s financial books and doing away with subjectivity in the numbers. The capital investment selection primarily occurred pursuant to the capital market theory and the IRR method was favoured. Multiples methods served to contact the financial markets.

Discrepancies between Numico’s acquisition approach and literature on financial economics can be marshalled in four issues. The first issue concerns linking production strategy to financial valuation with a coherent process approach. The second one refers to inserting accounting perspectives into cash flow valuations in an indisputable way. The third issue has to do with applying long-term hurdle rates of various characters objectively. The last issue is about schematising a wide array of accounting and discounting selection methods, recognising that both real options analysis and game theory methods are about to become applicable by firms. All in all, the communication among economic science and corporate practice has to improve.

Current lines of research may be pushed further in such a way that holistic financial valuation approaches emerge. Multiple financial modelling and capital selection approaches have to be aligned in an analytical framework. The present shareholder value perspectives are promising in this respect, especially if case-wise applicable heuristics are developed in a coherent way. A fitting contingent framework may take into account the corporate expansion strategy (merger policy), the size of the acquiring firm, the size of the acquisition investment, the corporate governance style (‘Anglo-Saxon’ or ‘Rhineland’), the acquirer’s acculturation with the target business, as well as the assimilation of regional differences that remain in Europe.

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