

It's in the Mix: Delivering Returns from China's Investment Boom

Over 2,000 years ago during the Han dynasty, Qian Sima, a Chinese philosopher, pointed out that small profits but quick turnover is a better strategy than seeking huge margins only. Now in modern times, private equity investors are largely rated by their ability to grow profits from their portfolio companies. As the number and scale of private equity investments have dramatically expanded in recent years, GP's and LP's alike are increasingly concerned about seeing real returns from these investments. However this is not always easy in an environment where costs are rising rapidly, customer needs are constantly changing and investor and management teams are not always aligned.

One of the first things private equity firms do when investing in a business in China is to strengthen governance and reporting. Return on assets (ROA) is perhaps the premier metric of quarterly and annual results. But how many Chinese management teams are able to measure and report on ROA at the transactional level of detail? How many provide their middle-management ranks with accurate, timely, detailed reporting of ROA by invoice line item, production run, customer order or production line which would enable them to follow Qian Sima's advice? Virtually none. And what are the chances that implementing systems that are capable of reporting and analyzing this data will define the winners in the market? Very high. As Chinese firms operate under an environment of increasing labor, capital and material costs, it seems that the current environment will demand productivity increases, with the obvious solution arising from tighter control of realized ROA.

ROA may be the central financial goal of many Chinese businesses, but even today's "advanced" management accounting

systems, including sophisticated activity-based costing (ABC) and enterprise resource planning (ERP) systems, aren't capable of calculating, reporting, or modelling ROA at a level of detail sufficient to allow managers to know the ROA impacts of their day-to-day, deal-by-deal choices and trade-offs.

As a direct consequence of this weakness in management accounting systems used by complex, asset-intensive manufacturing or service businesses, shareholder returns in industries including chemicals, steel, components, packaging, plastics, machinery and even retail or logistics services often fall well below an acceptable rate of return. In China, the ROI of many firms is below the interest rate, which actually indicates that value is being destroyed for investors. For example, a sample of 364 Chinese-listed companies showed the average ROI was just over 4% in 2011, compared to a 6.6% average interest rate. Just under 70 companies achieved ROI above the interest rate, and these were predominantly non asset-intensive companies. Definitely room for improvement.

Why Are ROA and Velocity So Important?

Before we drill into the details of this problem, let's go back to basics. First, consider how most people think about and define the ultimate goal of any business: profit. But the form that profit takes, be it ROS, EBITDA, ROCE, ROIC, RONA, etc., will be dependent on the situation in which the term is to be used. However, as any Wall Street analyst or finance professor will attest, the ultimate measure of profitability is return on equity (ROE), the ratio of the current year's profit divided by shareholders' equity or profit/equity. The higher the ROE ratio, the faster

It's in the Mix: Delivering Returns from China's Investment Boom was written by **Michel Brekelmans**, a Director and Co-Head of L.E.K.'s China practice; and **Ken Chen**, a Director at L.E.K. Consulting's Shanghai office. Please contact us at LEKCHINA@LEK.COM for additional information.

total shareholder equity will grow as each year's profits are added to the stockpile of shareholder wealth.

Unfortunately, even though achieving and sustaining a high ROE is the ultimate goal of any financial strategy, the ROE ratio itself is too abstract and removed from day-to-day business operations to be of any practical use in measuring and managing profitability. To gain real control over profitability, the profit/equity ratio needs to be broken down into its components.

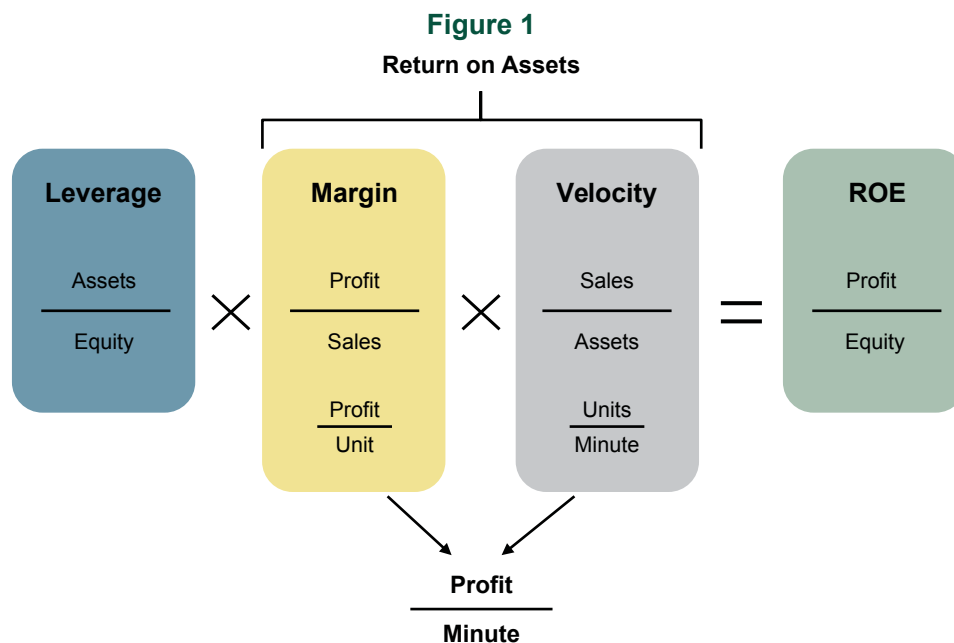
The most elegant explanation of the three components driving ROE is the famous "DuPont Profit Formula." In a nutshell, this formula shows how three financial measures interact to yield the ultimate result of ROE (see Figure 1). Control over all three ratios leads to control over the return on equity.

To run a business for optimal profitability, management must focus on the interaction between the profit/sales and sales/assets ratios. Multiplied together, these two ratios compose ROA – the final measure of a management team's effectiveness in squeezing profits from the assets under its control. Of these two vital operating ratios, profit/sales, or margin, is the focus of most attention in every company. To calculate the profit margin generated by each unit shipped or each dollar of revenue sold, companies expend huge resources attempting to accurately calculate the full cost of each product type made.

No such claim can be made for the equally crucial sales/assets ratio. Sales/assets, or the velocity ratio, measures the speed at which sales are generated from a company's asset base. The arithmetic is simple and unforgiving. Sales/assets, or velocity, is just as important as profit/sales, or margin, in determining a company's ROA. $\text{Margin} \times \text{Velocity} = \text{ROA}$. Low-margin products can yield exactly the same ROA as high-margin products if those low-margin products are easier to make and flow through the assets at higher velocities. Conversely, high-margin products won't deliver a superior ROA if those high margins are offset by slow production velocities. This idea is fundamental to making the productivity improvements that Chinese companies need to retain ROE in the face of increasing cost structures.

In today's ever-changing and challenging operating environment in China, it seems that the emphasis placed on ROA by businesses is only set to increase. A number of factors within the business environment, including rising labor costs, scarcity of capital and margin pressure from increasingly strong competitors and rising input costs, means that many companies are likely to increasingly focus their attention on profitability gains, with those implementing improvement strategies effectively most likely to emerge as overall winners.

Maximizing a company's ROA (and ultimately ROE) requires managers to understand in great detail the trade-offs between



Source: L.E.K. analysis

margin and velocity, product-by-product, order-by-order, and customer-by-customer. This requires that manufacturers need to measure and control the velocities of the products in the same way they do the margins. But this is often not the case. Production velocity data exists somewhere in the organization, usually at the plant level or at the shop floor. But it has been too complex a challenge to link detailed production velocity data to margin information in a rigorous way. Lacking access to robust management accounting systems that can seamlessly integrate margin and velocity data, managers have no choice but to rely on traditional “margin only” metrics.

How Can Velocity Affect Business Operation?

But GP’s and LP’s pay for ROA, and although ROA doesn’t equal margin, the vast majority of operating decisions are based on margin. Furthermore, even though $\text{Margin} \times \text{Velocity} = \text{ROA}$, virtually no Chinese management teams have systems or the capabilities that can properly take into account the role of velocity in driving ROA, and thus this becomes a key area of potential value creation for manufacturing and B2B service companies operating in China and throughout Asia.

Highly complex manufacturers who produce an extremely wide variety of products for an array of customers from multiple production facilities in industries such as chemicals, steel, FMCG, electronic components, packaging and building products will

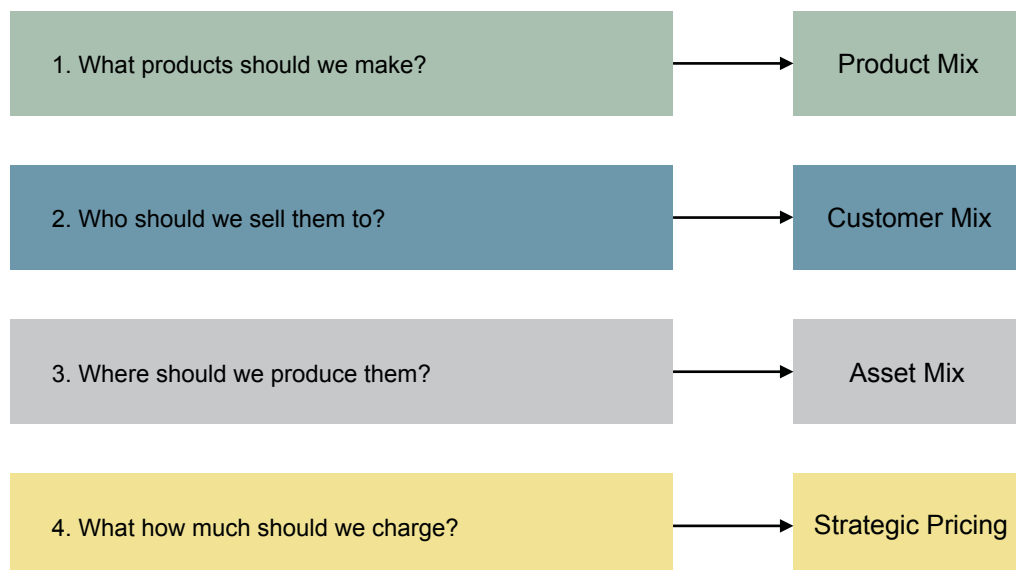
often produce hundreds, if not thousands or tens of thousands, of distinct product items – each with its own unique characteristics, pricing, margin, production velocity, and therefore, ROA.

To optimize the ROA generated each year from hugely expensive production assets, management teams must make a bewildering array of choices with great precision every day. Those choices can be grouped into four key areas, which are shown in Figure 2.

Let’s take a very simple example of a product mix choice (see Figure 3). Would we rather accept a new order for \$1,000 of Product A with its \$200 margin above material costs or an order for \$1,000 of Product B with its \$100 margin? On a margin-only basis, we clearly prefer Product A. But what if we know that Product A, because of its physical properties, is half as fast as B when running through the rolling mill? In one minute of rolling mill time, Product A will generate \$600 (3 x \$200), while Product B will also generate \$600 (6 x \$100). From an ROA standpoint – generating profit within a given period of time from the assets – Products A and B are equally profitable. Product A’s higher margin does not translate into a higher ROA.

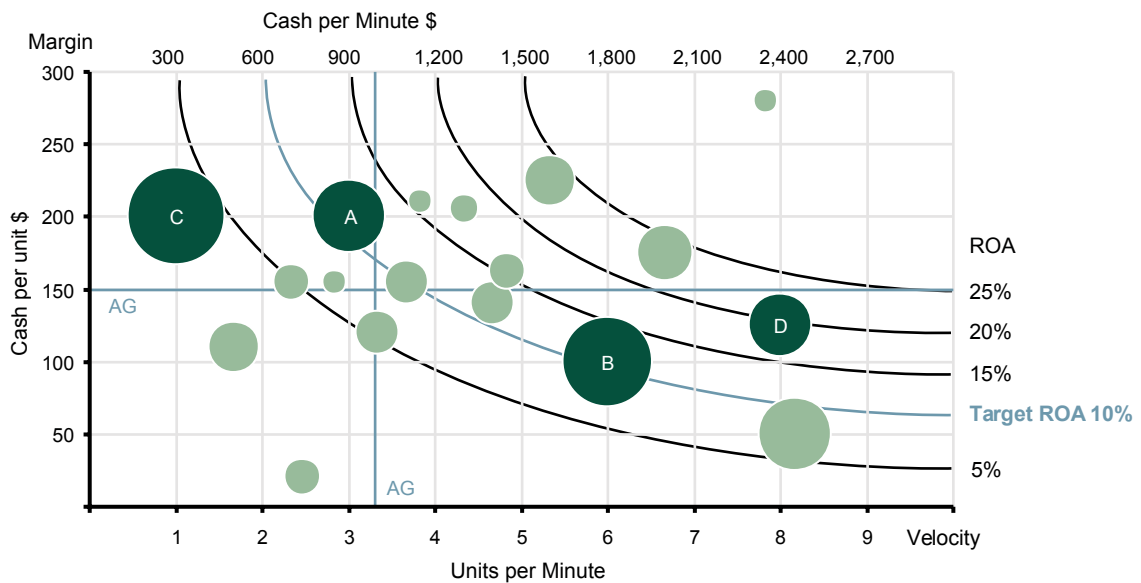
With margin on the vertical axis and production velocity on the horizontal axis, a profit topographical map shows contour lines that represent levels of cash/profit per minute and ROA. The bubbles can represent products, customers, markets, sales

Figure 2



Source: L.E.K. analysis

Figure 3



Source: L.E.K. analysis

regions or production facilities. As illustrated in Figure 3, the topographical map shows a dramatically different view of profitability than a “margin only” approach. High-margin products, customers, etc. may be significantly less profitable and generate lower ROA than ones that are produced faster and generate higher profit per minute (e.g., Product C vs. Product D).

From this we can see that optimizing ROA for 2,000 or 20,000 varieties of products on 40 different production lines is far from trivial, but unless you can measure, report and model both the velocity of production (sales/assets) at critical manufacturing steps and the margin (profit/sales) of each transaction to compute transaction-level ROA, you simply can’t gain effective management control over your ultimate ROA performance.

Having long recognized that choices based solely on margin can’t, by definition, lead to maximum ROA, dozens of leading manufacturers have been eager to implement an innovative management accounting system that fully integrates velocity and margin metrics at the transactional level. By allowing managers to model the ROA implications of their choices, before they make those choices, these companies have made significant adjustments to their product mix, customer mix asset mix, and pricing levels. Very significant increases in profitability, typically in the range of 3-5% of revenues, have been reported (see Figure 4), which has translated into notable improvements in ROA performance.

The strategic considerations of integrating velocity into decision making are profound as they guide commercial and operational aspects of the business, including which products a company should push, which customers to target and how to incentivize its sales force. These also form critical inputs into strategy development, such as pursuing the “value segment” with high volume / low margin (but high velocity) customers or penetrating tier 3 and tier 4 cities with simplified products or secondary brands.

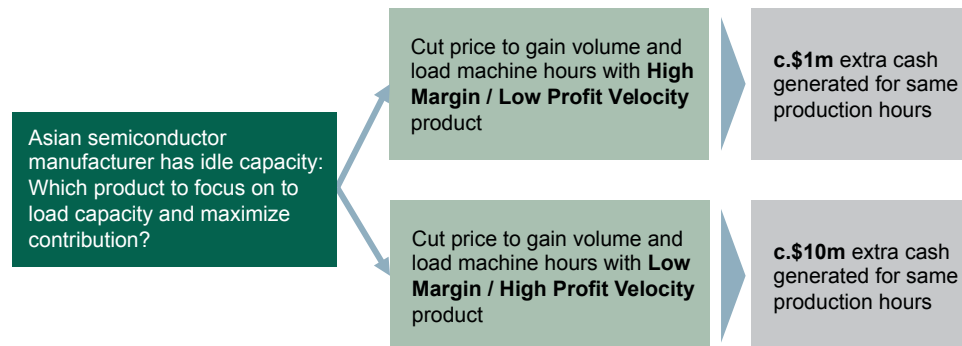
Implementing profit-velocity tools and processes allows multiple functions and application areas to work towards increasing cash contribution and profitability:

- Marketing departments prioritize products with high-profit velocity potential, adjust pricing to gain share in prioritized products and evaluate future products by their profit-velocity potential
- Sales departments focus efforts on customers purchasing high-profit velocity products and link sales incentives to profit-velocity levels to maximize profit potential
- Production and finance departments prioritize production lines with high-profit velocity performance, avoid CapEx investments by maximizing existing assets and model potential profit velocity and ROA of new investments

However, the implementation and adoption of profit-velocity tools and processes takes time and effort. L.E.K. can offer a

Figure 4

Case Study – Asian Semiconductor Manufacturer



Source: L.E.K. analysis

range of services to make the process more straightforward. We can leverage sophisticated analytical tools that tie in with existing ERP or invoicing systems and tailor these as part of an ongoing solution used by the company. We also offer a range of operational and strategic services from diagnostic projects to determining the value potential during the due diligence stage to project-based services and assisting in post-investment strategy development and commercial planning. We also provide training and implementation support to ensure that local management teams are equipped to take on the tools successfully as part of the ongoing management of the business.

The uptake and efficacy of implementing velocity tools and metrics are likely to become instrumental for private equity firms looking to increase value of their portfolio of assets. A more sophisticated understanding of what truly drives value will enable to turn promise into profit.

L.E.K. Consulting is a registered trademark of L.E.K. Consulting LLC. All other products and brands mentioned in this document are properties of their respective owners.

© 2013 L.E.K. Consulting

INSIGHTS @ WORK™

L.E.K. Consulting is a global management consulting firm that uses deep industry expertise and analytical rigor to help clients solve their most critical business problems. Founded 30 years ago, L.E.K. employs more than 1,000 professionals in 21 offices across Europe, the Americas and Asia-Pacific. L.E.K. has been on the ground serving clients in China since 1998. L.E.K. advises and supports global companies that are leaders in their industries – including the largest private and public sector organizations, private equity firms and emerging entrepreneurial businesses. L.E.K. helps business leaders consistently make better decisions, deliver improved business performance and create greater shareholder returns.

For further information contact:

Beijing

Unit 1026, Floor 15
Yintai Office Tower No. 2
Jianguomenwai Avenue
Beijing 100022
China
Telephone: 86.10.6510.1075
Facsimile: 86.10.6510.1078

Seoul

10FL, Kyobo Securities Building
26-4, Youido-dong
Yongdungpo-gu
Seoul, 150-737
South Korea
Telephone: 82.2.6336.6813
Facsimile: 82.2.6336.6710

Shanghai

Floor 34, CITIC Square
1168 Nanjing Road West
Shanghai 200041
China
Telephone: 86.21.6122.3900
Facsimile: 86.21.6122.3988

Singapore

50 Raffles Place
Singapore Land Tower #32-01
Singapore 048623
Singapore
Telephone: 65.9241.3847

Tokyo

7th Floor, Glass City Shibuya
16-28 Nanpeidai-cho,
Shibuya-ku
Tokyo 150-0036
Japan
Telephone: 81.3.4550.2640
Facsimile: 81.3.4550.2641

International Offices:

*Boston
Chennai
Chicago
Los Angeles
London
Melbourne
Milan
Mumbai
Munich
New Delhi
New York
Paris
San Francisco
São Paulo
Sydney
Wroclaw*