How Accurate Are Chinese Costing Practices?

By Raef Lawson, CMA, CPA

This is the third of three articles based on the recently completed study by the Institute of Management Accountants (IMA®) of the state of management accounting in China. The study included both field studies as well as an extensive survey of 209 companies; in conducting it, we were given access to companies that was unprecedented for Westerners. The research team consisted of Dr. Raef Lawson, IMA vice president of research and Professor-in-Residence; Jiliang Yang, retired professor from Hong Kong University of Science and Technology; and Pinzhun Ding, IMA senior China advisor, formerly of the PRC Ministry of Finance and the Chinese Institute of Certified Public Accountants (CICPA).

The first article discussed the evolution of the finance and accounting (F&A) function in Chinese companies; the second discussed the management accounting techniques they employ; and this one discusses these companies' costing practices. To obtain a copy of the study, visit www.imanet.org/china_studies_request.asp?id=1&from=research_costing_practice.asp.

In this final article describing the results of IMA's study of the state of management accounting in the People's Republic of China (China), we look at the costing practices employed by firms in that country. This is an important issue given the impact of product costs on firms' pricing decisions and the not-uncommon complaint of product dumping by Chinese firms.

Our study found significant differences between the costing practices followed by most Western companies and those followed by Chinese companies. These differences are described next along with their possible implications.

Chinese Accounting Standards

With the opening of China to the West in 1979, then-existing Chinese accounting standards were largely unsuitable for managing companies in the emerging market environment. As a result, China adopted a series of accounting standards with the goal of making Chinese companies' financial reporting more consistent with international standards. The latest was the adoption in 2006 of a new Basic Standard and 38 new Chinese Accounting Standards (CAS) that were substantially in line with International Financial Reporting Standards (IFRS). All listed companies started using the new CAS in the preparation of their 2007 annual financial statements. Use of the CAS expanded to all state-owned enterprises controlled by the Chinese central government starting in 2008 and to all large and medium-sized companies in China in 2009.

Adoption of the new CAS makes external financial reporting by Chinese companies closer to that of companies elsewhere in the world, although differences reflecting China's unique circumstances and environment remain, including those in the areas of related party disclosures and fair value measurement. While the new Standards have also narrowed internal costing practices, significant differences remain, including differences in inventory valuation (including costs treated as product costs and their allocation to products) and with regard to other costs, such as the treatment of the cost of land use rights.

Inventory Valuation

A primary objective of the study was to examine the costing practices of Chinese companies to see whether they are consistent with those followed by other companies internationally, especially with regard to the accuracy and appropriateness of the determination of inventory costs. Let's examine each of the traditional components of product cost in turn.

Direct Materials

In conformance with current accounting regulations, Chinese companies include the actual (vs. the standard or planned) cost of raw materials in inventory. Most companies directly allocate the actual cost of materials to products. One of the field study companies, however, initially costed direct materials at standard cost and then adjusted the allocated costs to actual at the end of each period. Current CAS require the cost of transporting raw materials to the companies' facilities to be included in direct material cost. This is a prevalent practice, and it's consistent with Western practice.

In nearly all cases, the cost of direct materials is traced directly to products. In a few instances, costs are allocated to products based on what is deemed to be an appropriate driver, such as production specifications or product volume.

Direct Labor and Fringe Benefits

Similar to direct materials, direct labor is included in inventory at actual cost. A large proportion of the companies we visited—generally those that employ batch production techniques—pay their factory employees on a piece-rate basis, with the result that they have no variances associated with labor cost. Companies with continuous production processes had salaried workers, with the cost of direct labor allocated to products based on direct labor hours or machine hours consumed. These practices are consistent with traditional Western costing practices.

Fringe benefits include a wide variety of items and add considerably to the cost of labor. For example, Tsingtao Brewery incurs several costs for fringe benefits (see Table 1).

At the time of our field study visits (2006), there was variation among companies in the treatment of these costs. The 14% welfare cost mandated by the government is typically treated as part of manufacturing overhead (and allocated to production), although one field study company indicated that it included this cost in administrative expense. The costs of the other fringe benefits are usually included in administrative expense, but one company indicated that it included the cost of all fringe benefits in manufacturing overhead.

The inclusion of the cost of these other benefits in administrative expense, although required under the 2001

Table 1: Tsingtao Brewery's Fringe Benefits

Item	Percent of Labor Cost
Welfare (medical insurance, other)	14.0
Pension	20.0
Healthcare	8.0
Housing	13.0
Unemployment insurance	2.0
Health insurance	1.0
Birth insurance	0.9
Total	58.9

There is considerable divergence in practice regarding the determination of which costs are treated as manufacturing overhead (i.e., a product cost) and which are treated as administrative expense (i.e., a period cost).

Chinese accounting regulations, wouldn't generally be considered appropriate treatment in the West. The 2006 CAS (which went into effect after the field visits) changed the required treatment of these costs. It is now mandated that fringe benefit costs follow the related labor cost, which is an improvement in costing practice.

Manufacturing Overhead

There are three issues regarding the treatment of manufacturing overhead. The first is identification of the types of costs that are considered overhead and allocated to products, the second is the amount of those costs (for example, actual vs. standard) allocated to products, and the third is the methodology used to make that allocation.

Costs Included in Manufacturing Overhead

There is considerable divergence in practice regarding the determination of which costs are treated as manufacturing overhead (i.e., a product cost) and which are treated as administrative expense (i.e., a period cost). An additional concern is that some cost elements, while treated uniformly, aren't included as they "should" be, based on standards prevalent in the West. Previously mentioned was the treatment of the cost of many fringe benefits as administrative expense, even though they relate directly to production activities. The recent change in accounting regulations helps address this issue.

Under the planned economy, all costs were classified as "workshop expenses" and "administrative expenses." When China started adapting its accounting systems to Western accounting conventions, it was generally thought that the cost item "administrative expenses" was comparable to the term "general and administrative expenses" used in the West and that "workshop expenses" was equivalent to "manufacturing expenses." Therefore, the term "administrative expenses" was kept, and the term "workshop expenses" was changed to "manufacturing expenses," with the cost categories maintaining the same contents as the prior expense classifications.

One result of this transformation was the misclassification of some indirect production-related costs as administrative expenses rather than as production expense. This situation was evident among the field study companies. The costs of supervision of maintenance workers, intangible assets amortization, labor insurance, inventory variance, insurance, and management-level personnel from factory departments were each treated by at least one company as an administrative expense, although treatment as part of manufacturing overhead would seem to be more appropriate.

Additional evidence of probable misclassification of costs is given in Table 2, which presents the treatment of various types of costs at various organizational levels within the surveyed companies.

This table raises serious concerns about the appropriateness of the treatment of various costs. For example, you can see that, at the factory level, more than half of the procurement costs are treated as a period expense. Similarly, more than 40% of the planning cost at the workshop level is treated as period costs, although this planning presumably is done by a workshop supervisor whose wages

Table 2: Treatment of Costs at Various Organizational Levels

	COMPANY (1ST LEVEL)		FACTORY (2ND LEVEL)		WORKSHOP (3RD LEVEL)	
TYPE OF COST	PERIOD COST	PRODUCT COST	PERIOD COST	PRODUCT COST	PERIOD COST	PRODUCT COST
Marketing/Sales	91% (115)	9% (11)	87% (26)	13% (4)	77% (10)	23% (3)
Finance & Accounting	99% (132)	1% (2)	81% (21)	19% (5)	56% (5)	44% (4)
Planning	78% (54)	22% (15)	55% (11)	45% (9)	42% (5)	58% (7)
Production	40% (27)	60% (40)	29% (12)	71% (29)	37% (7)	63% (12)
Procurement	45% (33)	55% (40)	55% (16)	45% (13)	21% (4)	79% (15)
Human resources	93% (88)	7% (7)	78% (18)	22% (5)	60% (6)	40% (4)
Equipment and maintenance	45% (29)	55% (36)	34% (12)	66% (23)	22% (7)	78% (25)
Management	98% (123)	2% (3)	87% (20)	13% (3)	50% (5)	50% (5)

Numbers in parentheses indicate number of firms. Percentages indicate the percent of companies with a given type of cost at a given organizational level that used the specified accounting treatment (i.e., period vs. product cost).

would normally be treated as manufacturing overhead in the West. This misclassification of product costs can, in turn, lead to erroneous decision making, including decisions about costs related to product costing.

Even when companies correctly classify costs as administrative expense or manufacturing overhead, there's a potential for product miscosting. With regard to administrative costs, while most of the sample companies (appropriately) don't allocate these costs to products, a substantial portion (17.6%) of the surveyed companies do. The perceived need to do this may be related to Chinese companies including in administrative expense some costs that are product-related.

Determination of the Amount of Overhead to Allocate

Most Western firms allocate manufacturing overhead to products based on a standard overhead application rate (with, at the end of a period, the difference between overhead costs applied and actual overhead costs incurred being handled in a variety of ways). This isn't a common practice in China. Under the planned economy, Chinese companies didn't use predetermined (standard) rates for the allocation of overhead. Rather, the application of overhead to products was required to be based on actual costs. This method was believed to be preferable to the use of standard rates because it prevented companies from overabsorbing overhead in order to inflate their reported profitability. Current accounting regulations still require this treatment, and nearly all of the surveyed companies follow this practice.

Allocation Methodology

All the case study companies employed what would be considered traditional costing methodologies. Each used a single, traditional base for allocating overhead from a single cost pool (for a given area). The allocation bases include output-related, labor-related (direct labor hours and direct labor cost), and other (cost of raw materials, machine hours, predetermined percentages) bases. There were no indications of use of more sophisticated costing techniques, such as activity-based costing (ABC), in product costing (although one company uses a similar technique for pricing its products). Since most companies in the West still employ standard costing, we expected that the use of advanced costing techniques among the firms we visited would also be low. But we were surprised by the total absence of more advanced costing techniques, given the size and history of the companies we visited and prior studies that found some Chinese companies using ABC.

Inasmuch as direct material and direct labor costs can

Table 3: Overhead Cost as a Percentage of Total Cost

Percentage, x	Number of Companies	Category Percent	Cumulative Percent
0	4	3.1%	3.1%
0<x≤1	7	5.4	8.5
1<x≤2	12	9.3	17.8
2<x≤5	25	19.4	37.2
5<x≤7.5	17	13.2	50.4
7.5<x≤10	28	21.7	72.1
10<x≤15	18	14.0	86.0
15<x≤20	9	7.0	93.0
20<x≤25	1	0.8	93.8
25<x≤30	4	3.1	96.9
30<x≤35	2	1.6	98.4
35≤x	2	1.6	100.0

Table 4: Overhead Allocation Bases

	Number of Companies	Percent
Direct labor cost	51	37
Direct labor hours	33	24
Varies based on appropriate driver for each activity pool	34	25
Other	11	8
Do not allocate manufacturing overhead costs	8	6
Total	137	100

be traced directly to products, a major issue in the design of a costing system is the treatment of manufacturing overhead costs. This issue is more important when overhead costs are a large percentage of total costs. Table 3 presents the distribution of overhead costs as a percentage of total costs. You can see that, for most of the surveyed companies, this percentage is relatively small (≤7.5%).

A conclusion based on this data that Chinese companies don't need sophisticated costing systems, especially with regard to their treatment of manufacturing overhead costs, must be tempered by two considerations. First, many of the surveyed companies were relatively small organizations that don't incur the overhead costs associated with managing a more diversified organization. Second, the percentage of manufacturing costs represented by overhead is artificially lowered because some of the costs that Chinese companies classify as administrative expense would instead be included in manufacturing overhead by Western companies.

For organizations with a large percentage of manufacturing overhead, selecting an appropriate allocation methodology can be really important. Table 4 indicates the methods the surveyed companies use.

The use of direct labor (either cost or hours) as an allocation basis for overhead is a prevalent practice for Western organizations as well as for the sample companies. The appropriateness of this methodology has been questioned in the accounting literature, and a variety of alternatives have been proposed. While the causal relationship between the costs of direct labor and overhead is more important than their relative magnitudes, this latter factor needs to be considered in determining the appropriateness of this methodology as an allocation basis. Manufacturing overhead as a percentage of direct labor for the sample companies is presented in Table 5.

The median ratio is 60% for the sample companies. For many of the companies, it appears that use of a direct-labor-based allocation could be appropriate. For others, for which overhead vastly exceeds direct labor, it would be unlikely that this would be an appropriate approach to overhead allocation.

An analysis of the methods used by the surveyed companies to allocate overhead based on their direct labor-to-overhead ratio indicated that the use of an allocation of overhead based on direct labor costs is prevalent among all firms, regardless of the value of this ratio, although there was to be a slight increase in the use of other allocation bases as this ratio increases. This makes sense in that the causal relationship between the amounts of overhead incurred and the amount of labor cost likely becomes more tenuous as this ratio increases.

Land Use Rights

Aside from the issues related to the costing of product by Chinese companies, there are other areas of concern about their costing practices. One of these is the treatment of the cost of land use rights. All land in the People's Republic of China belongs to the state, but individuals and companies can lease it for terms up to 75 years. Payment for the right to use land can take various forms. In some cases, companies are given the right to use land without charge, often because of the employment and development opportunities they provide. Other companies pay an initial lump sum amount for their land use rights, and others pay an annual fee.

Under Chinese Accounting Standards, land use rights are accounted for as intangible assets (at cost) except for those that meet certain criteria and are accounted for as investment properties. The Standards further require that an asset be amortized in a manner that reflects the pattern in which its future benefits are consumed. From a theoretical perspective, treatment of this amortization should vary depending on the utilization of the asset. Amortization associated with land use for production facilities should be included in manufacturing overhead and allocated to products, but amortization associated with administrative offices should be included in administrative expense.

In practice, the amortization of land use rights is usually treated as an administrative expense. As indicated in Table 6, the most common treatment of the cost of land use rights (48.5% of respondents) is to amortize the cost of the asset and treat the expense as administrative expense. Only 7.8% of the surveyed companies include the amortization of land use rights in manufacturing overhead and allocate it to products. Thus there's room for improvement in the treatment of this expense.

Table 5: Manufacturing Overhead as a Percentage of Direct Labor

Percentage, x	Number of Companies	Category Percent	Cumulative Percent
0	27	17.8	17.8
0<x≤20	7	4.6	22.4
20<x≤40	21	13.8	36.2
40<x≤50	14	9.2	45.4
50<x≤60	7	4.6	50.0
60<x≤70	7	4.6	54.6
70<x≤80	5	3.3	57.9
80<x≤90	3	2.0	59.9
90<x≤100	25	16.4	76.3
100<x≤150	8	5.3	81.6
150<x≤200	10	6.6	88.2
200<x≤300	4	2.6	90.8
300<x≤500	6	3.9	94.7
500≤x	6	3.9	98.7
n/a (no D/L)	2	1.3	100.0
Total	152		

Valuable Lessons

In this series of articles, we have examined management accounting in China. We have seen how the management accounting profession, while relatively new, has many of the characteristics of the profession in the West and is catching up with it. The profession in China utilizes tools and techniques—either thorough adoption of techniques from the West, development of home-grown methodologies, or some combination of the two—to meet companies' needs for performance evaluation and for organizational planning and control. Finally, we have seen that the costing methodologies employed by Chinese companies reflect prior practices and need further refinement. For Western companies that deal with Chinese companies in any way, having the knowledge of the strengths and weakness of their management accounting practices should be valuable. **SF**

Raef Lawson, CMA, CPA, Ph.D., is the vice president of research and Professor-in-Residence at the Institute of Management Accountants (IMA®). You can reach him at rlawson@imanet.org.

Table 6: Treatment of Land Use Rights Expense

	Number of Companies	Percent
This cost is not amortized	19	11.4
This cost is amortized and treated as a period (administrative) expense	81	48.5
This cost is amortized, included in manufacturing (overhead) expense, and allocated to products	13	7.8
This cost is not relevant to our company	50	29.9
Other	4	2.4
Total	167	100.0