Book Reviews

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Benedetto Cotrugli was a 15th century businessman who penned a “how-to” manual for business management that discussed double-entry bookkeeping 36 years before Pacioli’s Summa, and was published in English by Palgrave Macmillan in 2017. We recommend that readers of The Accounting Review acquire and read this historically important text for three reasons. One is that the book helps us understand the economic environment in which double-entry bookkeeping first surfaced and, thus, ultimately the origins of modern accounting. A second reason is that the book reminds us that basic bookkeeping is a component of effective business management and its usefulness must be anchored in judgment regarding the legitimacy of a business’s profit. Finally, the book is a fun read in a nerdy kind of way, and let’s admit it, most academic accountants (present authors included) are nerds who are endlessly curious about things that hold no fascination for the rest of society.

Cotrugli’s Book of the Art of Trade has ethics as its main focus. He extolled the virtues of double-entry bookkeeping because it provided a balanced approach that took into account both what one was owed as well as what one owed to others. Cotrugli held single-entry bookkeeping in contempt because it made it too easy to understate what one owed to others. Hence, Cotrugli sees an ethic that favors building goodwill with customers, creditors, and the broader community as a precondition to obtaining a just profit. He sought to educate the reader on the principles to be followed in obtaining an honorable profit:

Now, trade, whether we call it a science, an art, or an unclassifiable discipline, owing to its necessarily multiform diversity, given the variety each day brings to it, is governed none the less by specific rules, both general and particular, which must be understood by those who genuinely aspire to attaining an honorable return from it, in particular the young … But trade, if properly cultivated and conducted, is not only useful but, more than that, quite vital to human operations, and therefore it is the noblest activity.

Cotrugli’s text is divided into four parts, each devoted to a subject that Cotrugli saw as a part of the whole life of a successful 15th century merchant. Part 1 deals with the Business life of the merchant; Parts 2, 3, and 4 deal, respectively, with the merchant’s Religious, Civic, and Family lives. Seen from the perspective of modern business education, the subjects that typically comprise the core of an M.B.A. program (e.g., marketing, finance, operations, and accounting) are covered in Part 1 of the book. Thus, there is a big difference between what Cotrugli saw as essential to the merchant’s education and what we today perceive as necessary subjects for a business manager’s education. Whether this difference reflects an improvement to or an unfortunate loss of perspective in business education is an important question that the reader should ponder in interpreting Cotrugli’s text.

Chapter XIII in Part 1 is a chapter focused entirely on accounting—specifically, the necessity of maintaining the books using double-entry. Double-entry requires that the merchant “keep at least three sets of books, that is, his Scrap Book Records, his Day Book, and his Ledger” (p. 71). In the Ledger, each transaction “must be written on both sides of the sheet that is, on the right-hand side of the book under ‘sums owed’ and on the left under ‘sums owing’” (p. 72). Cotrugli (p. 73) later hints at a larger purpose for double-entry when describing the accounting for bills of exchange, which allows the merchant to “always be in control of situations you are involved in. And in these lines you will record the profit and loss on that account.” Cotrugli, in

1 Other chapters deal with accounting as a secondary matter—e.g., in the evaluation of excessive profits (see Chapters VIII, IX, X, and XIX in Part 1, Chapter IV in Part 2, and Chapter III in Part 3).
the very next sentence, instructs the reader to use double-entry because “if you administer your trade books according to this system you can, indeed must, call yourself a merchant, and if you do not, you are not worthy of the name.”

Cotrugli’s text on the business life of the merchant derives from an innate theoretical perspective that emerges as “homegrown wisdom” passed down through the ages. In this sense, the book is motivated by ideas subsequently articulated by scholars ranging from Adam Smith, whose theories of moral sentiments and economic development were grounded in cultural evolution, to social psychologist Kurt Lewin, who famously stated “there is nothing so practical as a good theory” (https://en.wikiquote.org/wiki/Kurt_Lewin). Using similar logic, Cotrugli (p. 28) writes:

And since it was that the natural things in creation were intended to be understood by natural instinct it was first necessary to understand individually from the outside what should be done and then to proceed with actions as were indicated by the interior intelligence. And this latter intelligence was in the natural order of things given us before proceeding with exterior actions, and it is called theoretical, which means nothing less, according to the original Greek etymology, than ‘intrinsic speculation and contemplation of things’. Reasoning thus, we can see that it is quite impossible to bring any action to a profitable conclusion without an inner intelligence and without taking into consideration the natural state of things.

The first part of Cotrugli’s text on the merchant’s business life includes 19 chapters. Chapter II (“On the Essence and Definition of Trade”) defines basic concepts and also describes the efficiency-enhancing role of trade to fill “a general need for things that were lacking to one and superfluous to another, having its origin in exchange and barter.” Chapter III describes how a merchant’s character is essential for earning an honorable profit. Chapter X (“On the Manner and Universal System of Trading”) discusses how the behavior of the merchant differs in organizations of different size and the role of innovation in securing profits (e.g., “a merchant must also experiment astutely and assess what kind of product he is suited to” and “a merchant should also know the right moment to switch merchandise, when he sees that profits are diminishing because a sector is becoming crowded.”)

Perhaps the most useful chapter is the one entitled “Things Forbidden to the Merchant,” which lists ten behaviors that the merchant must steadfastly avoid. Some of these are unique to Cotrugli’s time (e.g., prohibitions on alchemy and jousting), but others provide timeless advice to anyone seeking to develop and maintain a reputation for probity and prudent conduct in business (e.g., avoid gambling, excessive alcohol consumption, and association with persons known to be unethical).

The other parts of Cotrugli’s text contain material of varying relevance for the modern reader. Likely the most useful chapters will be found in Part 3 that deal with the civic life of the merchant. Important chapters here address the merchant’s honor and dignity (Chapter I), prudence (Chapter II), education (Chapter III), and sense of fairness (Chapter XI). Part 2 contains two chapters on almsgiving (Chapter III) and the role of conscience in determining permissible behavior (Chapter III) that will be thought-provoking for secular readers interested in broader ethical issues, but the chapters on the Catholic Mass and the importance of prayer will be of use mainly to readers interested in the time and place in which Cotrugli’s text was produced. The main value of Part 4 of Cotrugli’s text, which deals with the merchant’s family life, is to illustrate the vast differences between 15th century Italy and a modern Western nation like the United States. The chapters that cast these differences in sharp relief are Chapters VI (“On his Wife”), VII (“On his Children”), and VIII (“On Servants”).

A couple of the essays published along with Cotrugli’s text are essential reading for those seeking a deeper appreciation of Cotrugli’s text. The foreword by Niall Ferguson tells us at the outset that we are dealing with an author who defies the modern narrow stereotypes of the businessman: “Cotrugli was a highly educated humanist whose ideal merchant combined the classical virtues of the commoner-citizen as they had been conceived by the ancient Greeks and Romans and rediscovered by the Italian scholars in the Renaissance.” Another essay by Tiziano Zanato, presented immediately after Cotrugli’s text, provides an in-depth look at Cotrugli’s life and his work.

In addition to reading for personal pleasure, Cotrugli’s text could be used in several types of courses taught by business school faculty. Such courses include a capstone course for business ethics, a freshman seminar on the role of business in society, and either an undergraduate or graduate accounting seminar. The book will offer three conclusions for students:

1. The quintessence of trade is an exchange of values, where one trader provides access and availability of goods in return for a reasonable profit for his enterprise and effort. This appears in modern times in the form of large-scale production for consumers in a global marketplace where profit represents a “reasonable” mark-up from cost.

2. While Cotrugli devotes only one chapter to double-entry, the importance of the method in Renaissance business management is suggested by Adam Sangster’s (2007, 2016) research on the origins of double-entry. Sangster (2015, 9) describes how an early text on double-entry by de Raphaeli came to be appended to Cotrugli’s book in a single volume.
(2) While trade is inherently transactional, the conduct of business, is an art that requires a mastery of a broad range of skills that are acquired through a carefully curated lifetime of learning. These skills include strategic thinking, cultural awareness, technical knowledge, and rhetorical abilities of persuasion.

(3) Cotrugli’s book defines business success, with stunning clarity, to include far more than the acquisition of riches. In Cotrugli’s view, business success must be based on the respect earned from society as a standard-bearer for a fair, ethical, moral, way of life.

Cotrugli’s text also offers insights that can help accounting scholar-teachers see their work in clearer perspective:

(1) Accounting does not take place in a vacuum; rather it is complementary to and supportive of other functions like marketing and production in determining business success.

(2) A business must be based on enduring values in order to be accepted by society. This is necessary to counteract short-term political fads like Occupy Wall Street that are based on narrow stereotypical views of what business can accomplish.

(3) In a world where production is localized in small towns and one company is the chief employer, the value of a business to the community is more obvious to everyone. As production becomes geographically diverse or involves intangible products, such as in the financial sector, the value of the business becomes much less apparent. Cotrugli instructs the reader to always make a case for the value of a business being tied to its provision of goods and services that improve human lives.

We note in closing that even though Cotrugli wrote his Book of the Art of Trade during the Italian Renaissance, it provides a prudent business model that is timeless. This book is historically significant in predating Luca Pacioli and endorsing the practice of double-entry bookkeeping as a moral imperative by recording what one owes to others as well as what one is owed. The brilliance of the book lies in its broad thesis that a just profit is one that is earned by bettering the lives of those with whom the business manager-owner interacts: customers who consume the firm’s product and the workers who make the product.

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REFERENCES


This monograph reviews and summarizes the literature on earnings forecasting as an input to equity valuation models. The overarching goal is to come up with the “best” earnings forecast to be used as a model input, in order to produce the most accurate valuation model. Various valuation models are discussed and their salient points are well explained, but I will focus on the earnings inputs, as this is the heart of the book. The book takes the perspective of either: (1) a researcher who wants to understand the state of the art, with an eye toward improving the accuracy of earnings forecasts, in order to improve the accuracy of the valuation models; or (2) that of a teacher of an advanced M.B.A. course on equity valuation. The earnings (or earnings-related metric, such as a rate of return) forecasting methods analyzed are based on either panel data (which combine cross-sectional and time-series observations) or firm-specific ARIMA time-series models. Thus, the book is not intended for equity market practitioners, who eschew such models and use recent disaggregated firm data and spreadsheet methods to model the underlying earnings components, which are then aggregated into the summary forecasted number.

One of the book’s key takeaways, with which I strongly agree, is that our understanding of earnings forecasting and equity valuation is still far from complete, and thus there is much research left to be done. For example, for forecasting next year’s earnings, the random walk (RW) model, which was first studied more than 40 years ago and bases the forecast on only the most
recent observation, is hard to beat by more sophisticated models, despite its parsimony. This is despite the fact that the RW model is inconsistent with both accounting principles (conditional conservatism implies that extreme negative earnings should mean revert) and economic theory (competitive markets should dissipate away above normal earnings, so earnings should mean revert). Perhaps most important, the RW model is inconsistent with accounting practice, which uses a total financial statement analysis approach to forecast earnings. Despite the RW model’s shortcomings, we still do not really understand why it performs so well. Unfortunately, however, today’s accounting researchers do not have much interest in the issue of earnings forecasting, as evidenced by the book’s citations, only 14 of which (out of 97) are from the current decade, and three of these are reviews, not original research articles. Thus, progress has largely stalled. Hopefully, this book will encourage more original research in this area.

Overall, the author has a strong command of the literature, and the book does an excellent job of achieving its intended goal. I have only two primary complaints. First, the title: the book is not really about “Financial Statement Analysis” (at least not as the term has come to be used today), which involves an in-depth analysis of line items to build up to a forecasted earnings number. A more accurate title would be “Earnings Forecasting and Equity Valuation,” to emphasize the importance of the valuation function and the primary role of earnings. Second, and more importantly, the book would benefit from more emphasis on what I believe are the most promising research avenues for improving valuation model accuracy: use of more economic theory for modeling earnings series, and use of more state-of-the-art data methods for forecasting earnings. Despite these shortcomings, the two target groups mentioned above will find this monograph to be a valuable reference guide.

The book proceeds in a logical, step-by-step fashion. After an introduction in Chapter 1, Chapter 2 motivates the role of earnings in valuation, the crucial issue underlying the entire monograph. Although earnings’ efficacy is something accounting researchers take for granted, establishing it is important because valuation models in finance are based on discounted dividends or discounted cash flows (DCF). However, under the famous Miller and Modigliani (1961) dividend policy irrelevance (DPI) theorem, equity value is independent of when dividends will be paid, so forecasting dividends is meaningless.

Earnings become important for either of two reasons. First, earnings provide information about the firm’s future dividend-paying or cash-flow-generating ability (the information perspective). Second, accounting-based valuation models actually do represent valuation in terms of accounting earnings. Although earnings is an arbitrary construct (it can be measured in many ways, more aggressively or conservatively, depending on the accounting rules employed), these models focus not on earnings per se, but on a measure of abnormal or residual earnings (or its growth). For example, Ohlson and Juettner-Nauroth (2005; OJ model) express their model in terms of abnormal earnings (earnings minus dividends) growth. If current dividends are high (low), there will be less (more) reinvestment, so future earnings will low (high). Thus, near-term high (low) abnormal earnings is offset by long-term low (high) abnormal earnings. Similarly, in the residual income valuation (RIV) model of Ohlson (1995) and Feltham and Ohlson (1995), valuation is expressed in terms of the growth of residual income (earnings minus the required rate of return on book value), so whether accounting is aggressive or conservative does not matter: more aggressive (conservative) accounting results in higher (lower) book value and less (more) future residual income. The key points are that valuation is expressed in terms of earnings, and DPI holds.

However, as the author points out, the OJ and RIV models are essentially equivalent to DCF valuation (and the OJ and RIV models are almost equivalent to each other), so while there may be a priori reasons to prefer accrual accounting to cash accounting, it is an empirical question as to whether an earnings- or cash-flow-based model yields more accurate valuation. On this issue, the evidence is quite clear: accrual earnings are more informative about value than either cash flows or dividends (Penman and Sougiannis 1998). In summary, both analytical and empirical evidence is consistent with earnings being the fundamental valuation variable.

Once the role of earnings is established, the need for earnings forecasts is obvious. The researcher must then choose the specific earnings metric, so Chapter 3 discusses the pros and cons of different earnings metrics, such as comprehensive income versus net income versus abnormal or residual income, or raw versus deflated (i.e., rates of return) variables. The essential point is that there is no absolute right choice; all metrics have their pluses and minuses. For example, rates of return control for size, so forecast errors are not a function of size, but value is a function of size, so abstracting from size may be both good and bad. Thus, the forecasting context (i.e., the specific research question) determines the best choice.

Once the metric is chosen, the next step is to choose a forecasting model. Chapter 4 contains a short philosophical discussion about the role of econometric modeling of earnings. While I found this discussion enjoyable, the reader can skip it without loss of content.

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3 The RW model was first studied by Ball and Watts (1972) and is still considered validated by accounting researchers (Bradshaw, Drake, J. Myers, and L. Myers 2012).

4 For example, the accrual balance sheet is a better indicator of net resources, so ratios and margins are more meaningful.
Chapters 5 and 6 then discuss firm-specific forecasting models: time-series (ARIMA) models in Chapter 5, and panel data (pooled cross-sectional, time-series) models in Chapter 6. Given the wide choice of firm-specific time-series models or panel data methods, which is the most subtle part of the job in my opinion, this is the part of the book that I found to be most interesting. While the typical reader will have familiarity with these models, the discussion is very clearly and cogently organized, with just enough detail to be informative, but not so much to be overly technical.

As the author points out, a consistent result in modeling firm-specific earnings series is that the RW model forecasts one-year-ahead earnings better than other ARIMA models, and almost as well as panel data models. Given the simplicity of the RW model, this seems surprising at first, but perhaps it is not. More sophisticated ARIMA models are vulnerable to over-fitting the data. In addition, these models require lengthy time-series. The underlying dynamics of firms’ earnings series may change over time, so even if a model perfectly described history, it might not be good for forecasting. This begs the question of why study ARIMA models for earnings at all, and I like the author’s explanation that, at the very least, they provide a benchmark for evaluating the accuracy of other forecasts. But, there is an additional reason that the author does not mention that is even more compelling: if we can know the “correct” ARIMA model, it should be able to forecast better than the RW model. To find this ARIMA model, however, the selection criteria should be based not on within-sample fit, or even on holdout sample forecasting accuracy, but on a priori economic analysis. The fact that ARIMA models have not fared so well is likely due to the fact that the choice of correct model has not paid enough attention to the underlying economics. What is needed is more research like that of Lev (1983), who uses economic theory to model the time-series properties of firm-level earnings.

The relatively poor performance of ARIMA models leads naturally to a discussion of panel data models. Compared to ARIMA models, panel data models have the advantage in that they can be based on both a large sample of firms and a large set of forecasting variables. Thus, they can use a short time-series and do not have to rely on older, “stale” observations. Despite these advantages, as the author points out, to date they too have not been shown to be clearly superior to the RW model (for forecasting year-ahead earnings). In the author’s opinion (and mine) applying more economic, accounting, and statistical analysis to panel approaches has the most potential for improvement.

While many panel approaches are ad hoc and not based on theory, of particular interest to readers will be the discussion of accounting-based valuation models (Section 6.3.3) because these are based on an underlying valuation construct, and are not just data-driven. Excellent examples of studies using accounting based models are Nissim and Penman (2001, 2003), Fairfield and Yohn (2001), and Soliman (2008), who base their tests on the famous DuPont decomposition, which is taught in many M.B.A. Financial Statement Analysis classes. Evidence in favor of such a model shows that academic research can be fruitfully combined with real world practice.

The author then discusses the important issue of choosing an estimation sample based on the tradeoff between size and homogeneity (Section 6.5). He cites Fairfield, Rammath, and Yohn (2009), who find that forecasts of growth and profitability from industry-level samples are not more accurate than forecasts from economy-wide samples. This result is surprising and disconcerting, because most financial analysis and earnings forecasting is practiced and taught with an industry focus.

The answer to this conundrum may lie in the absence of ex ante theory used to derive the empirical models. In this regard, two papers that the author does not discuss, but that I believe provide a fruitful template for researchers, are Lev (1983), mentioned above, and Dickinson (2011). Dickinson uses life cycle analysis to model firms’ cash flow patterns, and she shows that such patterns can be used to identify homogenous groupings (for example, growth, mature, or decline firms). Although neither Lev (1983) nor Dickinson (2011) conducts a forecasting “horse race” to show the efficacy of their approach, it is easy to imagine adopting their methods for forecasting. Specifically, firms of similar economic characteristics or life cycle stage can be pooled together to get the advantage of large, homogenous samples, which leads to more statistical power and improved forecasting. Note that in this approach, homogeneity is not defined by industry identification per se (which might be part of the definition), but by reference to other observable characteristics.

Perhaps most important, in this chapter (Section 6.3.1) the author discusses statistical learning methods for choosing the best set of predictors. He cites Ou (1990) as an example of a paper that starts out with a large set of potential forecasters, and then uses a criterion (such as statistical significance in a simple regression model) to choose the best set of forecasters. The author makes a great point here about recent advances in statistical learnings methods, but does not go far enough. Given recent advances in Big Data and machine learning, this is the part of the book that could have most helped the reader, and I wish had been more developed. I suspect that it is by the application of such techniques, more than by any other methodological change, that earnings forecasting will significantly improve in large samples.

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5 This is analogous to the point made by Owens, Wu, and Zimmerman (2017) about the efficacy of accruals models when firms’ economic structures change, and it is consistent with the results of Gerakos and Gramacy (2013), who find that shorter panel lengths result in more accurate forecasts.

6 Ou (1990) begins with 61 explanatory variables and ends with eight in her final model, using a 10 percent significance level.
The author concludes this chapter with the observation that the lack of success of both ARIMA and panel data models in out-forecasting the RW model, despite accounting theory and practice, means that there are promising research opportunities. I would be more specific and suggest that using state-of-the-art data methods and more economic theory are fruitful paths.

Next, the author discusses accounting measurement—specifically, the role of accruals and accounting conservatism. Although not emphasized by the author, I see this section as integrally related to the panel data issue. That is, two of the most important firm characteristics that researchers can use to group firms are characteristics of their accruals and the degree of their accounting conservatism. For example, a well-known result is that extreme accruals mean revert, which can be used to group firms for earnings forecasting. Another related issue that the author does not discuss is the distinction between unconditional conservatism (such as accelerated depreciation, expensing of R&D, or LIFO), which does not depend on the occurrence of specific events, versus conditional conservatism, which depends on certain events, such as declines in asset values (necessitating write-downs). The distinction is important for forecasting, because conditional conservatism causes near-term mean reversion (earnings are depressed in a write-down year and will likely improve the next year), while unconditional conservatism causes near-term persistence in earnings (earnings stay low as long as the firm continues to invest in PPE, intangible assets, or inventory), but long-term mean reversion (earnings will increase when the firm slows its investments, but this could be many years away).

Finally, the author discusses forecasting earnings’ higher moments, such as variance or kurtosis, an area in which very little research has been done. Higher moments are important, because forecasted values must be discounted, which requires estimates of risk, such as variance or covariance. The central result in this research is that models that “put risk in the numerator” (by subtracting a risk term from expected earnings, and discounting by the risk-free rate), are more accurate than models that “put risk in the denominator” (discount by a risk adjusted rate). Importantly, we do not know why this is so, so much work needs to be done.

Overall, the author has put together a well-crafted manuscript that does an excellent job of summarizing the literature on earnings forecasting and equity-valuation models. Accounting researchers and teachers who work in this area will find this book to be a valuable reference guide, and hopefully the book will encourage new research.

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