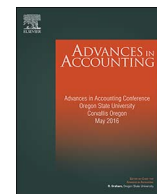




Contents lists available at ScienceDirect

## Advances in Accounting

journal homepage: [www.elsevier.com/locate/adiac](http://www.elsevier.com/locate/adiac)Value relevance of banks' cash flows from operations<sup>☆</sup>Qing L. Burke<sup>a,\*</sup>, Matthew M. Wieland<sup>b</sup><sup>a</sup> Department of Accountancy, Miami University, Oxford, OH 45056, United States<sup>b</sup> Department of Accountancy, Miami University, United States

## ARTICLE INFO

## Keywords:

Bank holding companies  
Statement of cash flows  
Cash flows from operations  
Value relevance

## ABSTRACT

This study examines the value relevance of banks' cash flows from operations. While banks are required to provide statements of cash flows under Generally Accepted Accounting Principles (GAAP), banks have long argued that cash flow information is not useful for the banking industry. Using a sample of banks from 2004 to 2014, we find that banks' cash flows from operations are predictive of future earnings and cash flows. Applying a modified Ohlson's (1995) valuation model, we document that banks' cash flows from operations are positively and significantly associated with share prices. Furthermore, we find the usefulness of banks' cash flows to vary depending on three important bank characteristics: profitability, capital adequacy, and credit risk. Taken together, these findings suggest that banks' cash flows from operations provide useful information to investors in valuing banks' equity. This study contributes novel empirical findings that enhance our understanding of the predictive ability and valuation usefulness of banks' operating cash flows.

## 1. Introduction

This study examines whether banks' cash flows from operations predict future cash flows and earnings, and whether the market incorporates such information into the price. The usefulness of cash flow information, as provided in banks' statements of cash flows, was hotly debated during the due process of Statement of Financial Accounting Standards (SFAS) 95, *Statement of Cash Flows* (Accounting Standard Codification [ASC] 230) issued in 1987. Banks asserted that a statement of cash flows would be meaningless for their industry because cash could be viewed as a product of lending activities, and the nature of banks' cash flows are significantly different from nonfinancial enterprises (paragraph 58, SFAS 95, *Financial Accounting Standards Board (FASB), 1987*). In contrast, the FASB argued that “a bank needs cash for essentially the same reasons a manufacturer does—to invest in its operations, to pay its obligations, and to provide returns to its investors” (paragraph 59, SFAS 95, *FASB, 1987*). As a result, the FASB included banks within the scope of SFAS 95, which made reporting a statement of cash flows a requirement. More recently, in February 2010 during the deliberation on the FASB/IASB joint Financial Statement Presentation project, working group members again questioned the usefulness of the statement of cash flows for financial service entities (*FASB, 2010a*). Taking advantage of bank cash flows data in Compustat

since 2004, the objective of this study is to provide large-sample evidence on the predictive ability and the value relevance of banks' cash flows from operations.

According to the Statement of Financial Accounting Concepts No. 8, information about an entity's cash flows helps investors to assess the entity's operations and its ability to generate future net cash flows (paragraph OB20, *FASB, 2010b*). Generally, cash flows from operations are considered an important input that equity investors incorporate when valuing a company. Many prior studies investigate the usefulness of cash flows by examining the ability of earnings, cash flow, and accrual components to predict future outcomes—and the extent to which they are reflected in share prices (e.g., *Ryan, Tucker, & Zarwin, 2006*; *Cheng, Ferris, Hsieh, & Su, 2005*; *Elshandidy, 2014*; *Schaberl & Victoravich, 2015*; *Dimitropoulos, Asteriou, & Koumanakos, 2010*). Most studies do not include the banking industry in their analyses, and the valuation usefulness of banks' cash flows from operations is less studied. There are several reasons for this. First, data on banks' cash flows from operations only became available on Compustat in 2004, so earlier studies were not able to utilize banks' cash flows data at the time of the research (*Sloan, 1996*; *Barth, Beaver, Hand, & Landsman, 1999*; *Cheng, Liu, & Schaefer, 1997*). Second, some models concerning the relation of earnings, cash flows and accruals are developed to reflect industrial firms' activities (*Bowen, Burgstahler and*

<sup>☆</sup> We thank Terry Warfield, our colleagues at Miami University, and workshop participants at the University of Kentucky for their comments. The authors gratefully acknowledge the financial support of the Farmer School of Business at Miami University.

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<http://dx.doi.org/10.1016/j.adiac.2017.08.002>

Received 22 March 2017; Received in revised form 2 August 2017; Accepted 2 August 2017  
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Daley, 1987; Dechow, 1994; Barth, Cram and Nelson, 2001).<sup>1</sup> However, one exception is Ryan, Tucker, and Zarowin (2006), who—using hand-collected data—examine 37 U.S. banks with large amounts of trading assets. Although not the focus of their study, part of their analyses suggests that cash flows from operations are associated with future cash flows from operations and that the market incorporates this information into price. In addition, Dimitropoulos, Asteriou, and Koumanakos (2010) examine a sample of 11 Greek bank institutions and find that cash flow levels explain stock returns, incremental to earnings.

Given the debate on the usefulness of banks' cash flow information and the small amount of prior literature in this area, the objective of this study is to provide large-sample evidence on the value relevance of banks' cash flows from operations. Using a sample of publicly traded bank holding companies from the years 2004 to 2014, we examine whether banks' cash flows aid investors in equity valuation. Decomposing earnings into cash flows and accruals, we first demonstrate the predictive ability of cash flows for future earnings and future operating cash flows, after controlling for the predictive ability of accruals. Next, we examine whether the market incorporates banks' cash flow information into equity valuation using a modified version of Ohlson's (1995) model of the valuation of earnings and book value that partitions earnings into cash flows and accruals. By estimating regressions of share price on cash flows from operations, accruals, and book value of equity, we find a positive and significant association between share price and cash flows from operations. This suggests cash flow information is an important input in share price valuation. The positive association holds after partitioning accruals into provisions for loan losses and other accruals. Furthermore, we find that cash flows are more value relevant for banks with a profit relative to those with a loss, for banks with higher Tier 1 capital ratios, and for banks with lower credit risk. Taken together, the findings suggest that banks' cash flows from operations provide useful information to investors.

Our study extends Ryan et al. (2006) in several meaningful ways. First, we examine a broader cross-section of banks—over 400 banks each year—in contrast to Ryan et al. (2006)'s sample of 37 large banks with significant trading assets, which may not be representative of an average bank. Second, their sample period of 1991–2003 does not capture recent changes in the regulatory and economic environment nor the 2007–2009 financial crisis period, which our sample period of 2004–2014 does. Lastly, we examine whether cash flow provides different levels of information depending on several bank characteristics.

Our study makes several contributions. First, by showing that banks' cash flows are value relevant, our study sheds light on the debate among banks and standard setters concerning the usefulness of banks' cash flow information to investors. During the deliberation on the FASB/IASB joint Financial Statement Presentation project in 2010, working group members questioned the usefulness of the statement of cash flows for financial services entities. Our study could assist the FASB in future deliberations regarding the financial service industry's use of the statement of cash flows.<sup>2</sup> Our findings also provide bank financial statement users a better understanding of the predictive ability and valuation of banks' operating cash flows.

Second, the results from this study contribute to the literature on the valuation implications of cash flows (e.g., Barth, Beaver, Hand, & Landsman, 1999; Barth, Cram, & Nelson, 2001; Bowen, Burgstahler, & Daley, 1987; Cheng, Liu, & Schaefer, 1997; Sloan, 1996). By showing the predictive ability of banks' cash flows and the extent to

which cash flows are priced into equity valuation, we extend the literature on the relation of cash flows and equity values.<sup>3</sup> In addition, some academics have argued (but have not empirically tested in a large sample) that cash flow amounts are not important for the banking industry (Mulford & Comiskey, 2009; Ryan, 2002).<sup>4</sup> Using a sample of publicly traded bank holding companies from 2004 to 2014, our empirical findings suggest the contrary.

We organize the remainder of the paper as follows. Section 2 provides institutional background on banks' cash flows from operating activities and develops hypotheses. In Section 3, we describe the research design and sample selection. In Section 4, we report the main empirical results of the hypotheses. Section 5 presents additional analysis. Section 6 concludes.

## 2. Institutional background and hypotheses development

### 2.1. Institutional background on Banks' cash flows from operations

Cash flows from operating activities are generally the cash effects of transactions that enter into the determination of net income (ASC 230-10-20). For a bank, the determination of net income involves two major elements: revenues, which consist of net interest income (i.e., interest income minus interest expense) and noninterest income, and expenses, which consist of provisions for loan losses, noninterest expense, and income tax expense.<sup>5</sup> Relatedly, a bank's cash flows from operations are the difference between cash inflows and outflows from operating activities. A bank's cash inflows from operations primarily consist of cash receipts related to interest income (e.g., interest revenues received on loans, leases, and investment securities) and noninterest income (e.g., fees and commissions received). A bank's cash outflows from operations primarily consist of cash payments related to interest expense (e.g., interest paid to depositors and other creditors), noninterest expense (e.g., cash paid to suppliers and employees), and income taxes. In addition, for banks that carry securities in a trading account and/or engage in the origination, purchase, and/or sale of loans, cash flows from operating activities include cash flows from the purchase and sale of trading securities and loans held for sale (ASC 230-10-45-18 through 45-21).<sup>6</sup>

When arriving at operating cash flows, banks typically use the indirect method, under which net income is converted to net cash flows from operations by removing the effects of income statement

<sup>3</sup> Using pre-loan loss earnings to approximate bank cash flows (due to the unavailability of banks' operating cash flow information on Compustat), Wahlen (1994) provided some evidence that the change in cash flows for banks are associated with future changes in cash flows.

<sup>4</sup> A contemporaneous working paper, Gao, Li and O'Hanlon (2015), applies a different approach and examines the informativeness of disaggregated items in the statements of cash flows of banks and nonfinancial companies. Gao et al. conclude that disaggregated items in banks' statements of cash flows are of limited informativeness and are less informative than those of nonfinancial companies.

<sup>5</sup> More specifically, net interest income is the difference between interest income from loans and leases, investment securities, etc., and interest expense from depositors and other creditors. Noninterest income includes service charges on deposit accounts, trust and investment fees, mortgage banking revenues, and gains or losses from trading activities. Noninterest expense includes salaries, occupancy, marketing, depreciation, and amortization.

<sup>6</sup> The FASB concluded that cash flows from purchases and sales of trading securities should be reported as operating cash flows because securities in trading accounts are similar to inventory in other businesses (paragraph 26 of SFAS 102, 1989). The Board also concluded that cash flows resulting from the purchase or origination and sale of loans that were specifically acquired for resale should be reported as operating cash flows because these loans are similar to inventory in other businesses (paragraph 27 of SFAS 102, 1989). Furthermore, the Board decided that cash receipts resulting from sales of loans that were specifically acquired for resale should be classified as operating cash flows and that cash receipts resulting from sales of loans that were not specifically acquired for resale should be classified as investing cash flows. In order to achieve greater comparability, a subsequent change in the purpose of holding these loans (e.g., a change from trading to holding these loans) does not change the classification of cash receipts from sales of these loans (paragraph 9 of SFAS 102, FASB, 1989).

<sup>1</sup> Similar to prior literature, we use the terms cash flows, operating cash flows, and cash flows from operations interchangeably.

<sup>2</sup> The FASB had a joint project with the International Accounting Standards Board (IASB) on Financial Statement Presentation from 2002 to 2011. During their joint meeting in February 2010, the Boards discussed whether financial services entities should be required to use the direct method when preparing a statement of cash flows (FASB, 2010a). The Boards have yet to return to the financial statement presentation project when the requisite capacity allows (FASB, 2011).

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