Comovement and investment banking networks

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Abstract

We test the hypothesis that investment banking networks affect stock prices and trading behavior. Consistent with the notion that investment banks serve as information hubs for segmented groups of investors, the stock prices of firms that use the same lead underwriter during their equity offerings tend to move together. We also find that when firms switch underwriters between their initial public offering (IPO) and a seasoned equity offering (SEO), they comove less with the stocks associated with the old bank and more with the stocks associated with the new bank. This change in comovement is greater for stocks completing their first SEO and for those experiencing large changes in institutional ownership.

1. Introduction

Through repeated securities offerings, investment banks develop tight-knit, long-term relations with both their corporate clients and investors. These relations appear to generate unique networks of investors who tend to remain loyal to their primary investment bank (e.g., Binay, Gatchev, and Pirinsky, 2007; Gondat-Larralde and James, 2008; Huang, Shangguan, and Zhang, 2008). This suggests that buy-side firms self-segment through affiliation with particular investment banks, much like a social network. In this paper, we test whether such networks have a direct effect on stock prices and trading behavior through the creation of segmented capital markets.

Investment banking relationships are an ideal subject for studying the effect of information networks on asset prices because underwriters are a conduit for information flow between firms and their investors. The prospectus, the road show, and general marketing efforts during initial public offerings (IPOs) and seasoned equity offerings (SEOs) all create a segmented information flow directed at targeted groups of investors. Underwriters also provide their clients with information-intensive activities such as market making, advice on mergers and acquisitions, and analyst coverage (e.g., Ritter, 2003; and Ljungqvist, Marston, and Wilhelm, 2006), which over time create suitable conditions for investors to form strong bonds with their primary investment bank.

In this paper, we hypothesize that if different investment banks have access to different networks of investors, then the underwriting process could create segmented networks...
of investors who would hold similar stocks and share similar correlated trading patterns. As a result, a firm’s underwriting relation could affect the firm’s stock price behavior through market segmentation. While previous studies have shown the effect of underwriting relations on underpricing and long-run performance (e.g., Beatty and Ritter, 1986; Carter, Dark, and Singh, 1998), little evidence exists on whether the formation of investor coalitions segments markets to the extent necessary to have a real effect on stock prices.

Our predictions are based on recent theoretical models that analyze the effect of social connections on stock prices and trading behavior (e.g., DeMarzo, Vayanos, and Zwiebel, 2003; Colla and Mele, 2010; Ozsoylev and Walden, 2011; Han and Yang, 2014). If markets are complete, then switching from one underwriter to another should not affect the covariance of asset prices. However, the existence of segmented markets or an asymmetric communication flow driven by geographic, social, or institutional boundaries can lead to the formation of coalitions or networks of investors who concentrate their holdings and trading patterns in common securities. As a result, underwriter network effects can generate excess correlation.

Consider a simple example. Suppose Goldman Sachs underwrites equity offerings by firms A, B, and C. In its road show, it conveys information about the firms to a set of investors, \( I_{\text{Goldman}} \), who subsequently buy shares in A, B, and C. JPMorgan similarly underwrites offerings by a different set of firms (D, E, and F) and markets them to a different set of investors, \( I_{\text{JPMorgan}} \). As long as these two sets of investors do not share any information about firm fundamentals, the trading behavior of these two separate sets of investors can lead to correlations in asset prices that are driven by correlated buying and selling pressure within the investor set. Now suppose an exogenous force causes firm F to switch underwriters for its next security offering, and it moves from JPMorgan to Goldman. Now, \( I_{\text{Goldman}} \) obtains better information about firm F than \( I_{\text{JPMorgan}} \), which causes the stock returns of firm F to move less with D and E (its old network) and more with A, B, and C (its new network). Because buy-side groups have access to different information channels, this market segmentation can lead to network effects on asset prices.

Consistent with these predictions, we find evidence that investment banking networks generate comovement in stock prices and trading behavior. Specifically, we find that stocks sharing the same underwriter at their IPOs covary to a greater extent than simple fundamentals would suggest. This comovement increases when the firm completes an SEO, and the increase is magnified when the firm switches underwriters for the new offering. Furthermore, firms that switch underwriters begin moving less with the old bank network of stocks and move more with the new bank network of stocks after the switch.

To test for network effects, we first form a network portfolio for each investment bank by grouping all firms that had their most recent equity offering with that particular bank. We then form a time series of returns for each network portfolio. In a simple test, we find that individual stock returns are more correlated with their own network portfolio than they are with other network portfolios (or with a placebo random set of stocks). This could be true if certain investment banks endogenously match with firms along a dimension already associated with comovement. For example, if Goldman Sachs tends to underwrite large-value, high-priced stocks headquartered in the Northeast, we could simply be observing those other forms of comovement.

To mitigate the potential endogeneity of cross-sectional underwriter matching, we examine the behavior of stock comovement around SEOs. By focusing on an event window of one year before and after the SEO event, it is unlikely that other firm characteristics are driving the relative change in comovement. Our results indicate that firms using a new underwriter experience a large increase in comovement with new underwriter–affiliated portfolios relative to firms that do not switch. This change in comovement is especially large for firms completing their first SEO. Overall, the economic magnitude of the effect we show is on the same scale as the comovement induced by the nominal share price (Green and Hwang, 2009) or index additions (Barberis, Shleifer, and Wurgler, 2005).

Even for firms that switch underwriters, there could be residual endogeneity if some unobserved change in firm characteristics causes firms to strategically switch underwriters. To address this issue, we follow the methodology in Asker and Ljungqvist (2010) and examine the changes in the comovement of firms that are forced to switch underwriters because their former investment bank exits the market. While Gibson, Safieddine, and Sonti (2004) show a large increase in institutional ownership around SEOs, we find that the nature of this change is especially important for firms that switch underwriters.

We also test whether changes in the investor network can be identified through market-making activity. Using a sample of Nasdaq stocks, we find significant changes in market-making activity from pre- to post-SEO. In the 12 months around the SEO, a structural shift in trading takes place from the old to the new bank, which demonstrates a discrete change in the location and patterns of trade around the underwriter switch.

Our results are robust. In addition to the standard regression analysis employed in other studies of comovement, we develop a matched sample approach. We create matched pairs of firms based on the relative size of the offering and the time since the last equity offering. We find that the switching firms experience larger changes in comovement around the SEO than do the matched sample of firms. We also test whether our results are related to recent studies on changes in analyst coverage and find that analysts do not appear to be the main source of the
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