No. 2359

**CONFLICT OF INTEREST IN
UNIVERSAL BANKING: BANK
LENDING, STOCK UNDERWRITING
AND FUND MANAGEMENT**

Hedva Ber, Yishay Yafeh and Oved Yosha

FINANCIAL ECONOMICS

Centre for Economic Policy Research

CONFLICT OF INTEREST IN UNIVERSAL BANKING: BANK LENDING, STOCK UNDERWRITING AND FUND MANAGEMENT

Hedva Ber , Bank of Israel
Yishay Yafeh, Hebrew University
Oved Yosha, Tel Aviv University and CEPR

ABSTRACT

Conflict of Interest in Universal Banking: Bank Lending, Stock Underwriting and Fund Management*

Using a newly constructed data set on Israeli Initial Public Offering (IPO) firms in the 1990s, we study costs and benefits of universal banking. We find that a firm whose equity was underwritten by a bank-affiliated underwriter, when the same bank was also a large creditor of the firm in the IPO year, exhibits significantly better than average post-issue accounting performance, but that its stock performance during the first year following the IPO is considerably lower than average. When an investment fund managed by the same bank is heavily involved in the IPO as buyer of the newly issued equity, the stock performance during the first year following the IPO is even lower. This, together with negative first day returns, is indicative of IPO overpricing. We interpret these findings as evidence that universal banks use their superior information regarding client firms to float the stock of the 'cherries', not the 'lemons' (as measured by post-issue accounting performance), but that bank managed funds pay too much for bank underwritten IPOs, at the expense of the investors in the funds. These results suggest that there is conflict of interest in the combination of bank lending, underwriting, *and* fund management.

Hedva Ber
Research Department
Bank of Israel
Jerusalem 91007
ISRAEL

Yishay Yafeh
Department of Economics
Hebrew University
Jerusalem 91905
ISRAEL
Tel: (972 2) 588 3246
Fax: (972 2) 581 6071
Email: msyafeh@pluto.mscc.huji.ac.il

Oved Yosha
Berglas School of Economics
Tel Aviv University
Tel Aviv 67798
ISRAEL
Tel: (972 3) 640 7242
Fax: (972 3) 640 9908
Email: yosha@post.tau.ac.il

NON-TECHNICAL SUMMARY

Costs and benefits of universal banking are at the centre of the debate on banking reform in many countries and public interest in this topic is likely to rise in light of the recent move in the United States to repeal the Glass-Steagall Act. Much attention has been devoted to potential conflict of interest between bank lending and bank underwriting. Proponents of universal banking emphasize economies of scope in information gathering arguing that bank (or bank-affiliated) underwriters have better knowledge of client firms and are, thus, more qualified to serve as underwriters. Opponents argue that bank underwriters may take advantage precisely of such information, trying to off-load the securities of low quality firms onto unsuspecting investors.

Existing empirical evidence on this issue is mainly from the pre-Glass-Steagall period and there is a real need for more modern evidence. Israel provides an excellent opportunity to study these questions since banks in Israel are truly universal, operating in all segments of the capital market, underwriting securities, managing investment funds and owning the equity of firms, directly as well as via these funds. Furthermore, the early 1990s witnessed a large wave of stock Initial Public Offerings (IPOs) on the Tel Aviv Stock Exchange with a deep involvement of the banks, both as underwriters and as buyers of large amounts of the issued equity, mainly through bank-managed investment funds.

Our newly constructed data set contains information on several performance and corporate governance measures for Israeli stock IPO manufacturing firms in the 1990s, including ownership and bank lending concentration, the identity of the underwriter (and whether it is bank-affiliated), whether the underwriting bank was also a significant creditor of the underwritten firm in the IPO year and whether investment funds managed by the same bank purchased the newly issued equity.

Our study goes beyond existing studies on universal banking in several ways. First, it focuses on equity offerings whereas all the above-mentioned papers restrict attention to debt floatations. Israeli data from the 1990s are probably the best available source of information for analysing costs and benefits of combined bank lending and equity underwriting. Second, our study combines post-issue accounting profitability and post-IPO stock returns as measures of firm performance. Third, it is the first to analyse empirically implications of combined bank lending, equity underwriting *and* fund management.

This aspect of universal banking – the combination of underwriting securities and fund management – has not received attention in recent empirical work. In 1933, with the passage of the Glass-Steagall Act, Congress barred bank

affiliates from owning and dealing in securities. (The 1934 Pecora Report states that Congress sought to 'completely divorce investment trusts from investment banking.' As a result, the SEC sought a Glass-Steagall type of severance, but eventually had to compromise with the mutual funds industry, achieving nevertheless substantial severance.) Investment funds and US banks kept searching for ways to circumvent this legislation, by increasing the amount of stock they managed as trustees or by reincorporating as holding companies. (Since holding companies were not as stringently regulated, they could own stock. In response, Congress enacted the 1956 Bank Holding Company Act which restricted the activities of holding companies.) In the past two decades the separation of investment trusts from banking has been eroding. Banks in the United States now advise pension funds, manage trust funds and have begun to sponsor mutual funds. The recent move to repeal the Glass-Steagall Act will most likely increase bank involvement in these activities.

Another noteworthy development is the consolidation wave in the financial services industry. The number of US banks and banking organizations has fallen by about 30% between 1988 and 1997, with the share of total assets held by the eight largest organizations rising from 22.5 to 35.5%. The bank merger wave and the process of consolidation of banks with non-bank financial firms has raised concerns of excessive market power in the financial services industry. A case in point is the recent mega-merger of Citicorp and Travelers into one of the biggest financial groups anywhere (Citigroup) that 'will have formidable positions in consumer banking, corporate finance, stockbroking, mutual funds and life insurance.' (*The Economist*, 11 April 1998.) The recent mega-merger wave in the French and Japanese banking systems and the involvement of Deutche Bank in the US investment banking industry are yet other examples of the same worldwide phenomenon.The fusion of the banking and securities industries poses regulatory questions that have to do with consumer protection - it is important, for example, to keep banks from 'stuffing shares they have underwritten into the portfolios of unknowing customers.' (ibid.) Our empirical work provides evidence on precisely such behaviour.

We evaluate the relative post-issue performance of the firms in our sample according to their affiliation with banks and bank-affiliated underwriters and investment funds. To evaluate post-issue performance we use several measures of accounting profitability, as well as stock returns on the first day and during the first year following the IPO. We find that the average post-issue accounting profitability of firms underwritten by a bank affiliated underwriter that were also borrowers from the same bankin the IPO year, is significantly better than average. (For brevity, we will often refer to such firms as firms with a bank underwriter-lender.) We also find, however, that these firms exhibit negative stock excess returns during the first year following the IPO, as well

as negative first day returns which suggests that the negative one-year returns are partly driven by IPO overpricing. We further find that the post-IPO stock returns for the (small) sub-sample of firms whose equity was purchased by an investment fund affiliated with the bank underwriter-lender exhibited extremely low stock returns both on the first day and during the first year.

We interpret these findings as evidence that universal banks use their superior information regarding client firms to float the stock of the 'cherries', not the 'lemons' (as measured by post-accounting performance), which is fully consistent with evidence provided by earlier work regarding debt floatations in the United States. At the same time, the results suggest that bank-managed funds pay too much for bank underwritten IPOs, at the expense of the investors in the funds. Our interpretation is that financial conglomerates exhibit higher 'loyalty' to client firms than to investors in funds. It is not easy for the investors in the funds to protect themselves against such behaviour by the universal banks due to lack of transparency and the presence of non-negligible switching costs (which partly explains why the banks acted as they did). Certainly, there may be collusion among the Israeli universal banks which, no doubt, facilitates IPO overpricing, but we explain in the Paper that the empirical results cannot be rationalized only by collusion. We believe that these findings should raise concern about potential conflict of interest in the combination of bank lending, underwriting and fund management.

1 Introduction

Costs and benefits of universal banking are at the center of the debate on banking reform in many countries, and public interest in this topic is likely to rise in light of the recent move in the United States to repeal the Glass-Steagall Act.[1] Much attention has been devoted to potential conflict of interest between bank lending and bank underwriting. Proponents of universal banking emphasize economies of scope in information gathering arguing that bank (or bank affiliated) underwriters have better knowledge of client firms and are, thus, more qualified to serve as underwriters. Opponents argue that bank underwriters may take advantage precisely of such information, trying to off-load the securities of low quality firms onto unsuspecting investors.

Existing empirical evidence on this issue is mainly from the pre-Glass-Steagall period, and there is a real need for more modern evidence.[2] Israel provides an excellent opportunity to study these questions since banks in Israel are truly universal, operating in all segments of the capital market, underwriting securities, managing investment funds, and owning the equity of firms, directly as well as via these funds. Furthermore, the early 1990s witnessed a large wave of stock Initial Public Offerings (IPOs) on the Tel Aviv Stock Exchange with a deep involvement of the banks, both as underwriters and as buyers of large amounts of the issued equity, mainly through bank managed investment funds.

Our newly constructed data set contains information on several performance and corporate governance measures for Israeli stock IPO manufacturing firms in the 1990s, including ownership and bank lending concentration, the identity of the underwriter (and whether it is bank affiliated), whether the underwriting bank was also a significant creditor of the underwritten firm in the IPO year, and whether investment funds managed by the same bank purchased the newly issued equity.

Our study goes beyond existing studies on universal banking in several ways. First, it focuses on equity offerings whereas all the above mentioned papers restrict attention to debt floatations. Israeli data from the 1990s are probably the best available source of information for analyzing costs and benefits

---

[1]See, e.g., *The Financial Times*, 23 October 1999, reporting on the agreement between the US Congress and the Clinton Administration to repeal the Act.

[2]The pre-Glass-Steagall period studies we are aware of are Ang and Richardson (1994), Kroszner and Rajan (1994, 1997), and Puri (1994, 1996). Gande et al. (1997) provide modern evidence exploiting the recent relaxation in the United States of some Glass-Steagall restrictions regarding underwriting by commercial banks, and Hamao and Hoshi (1998) study bank underwriting of corporate bonds in Japan after 1994, in light of similar reforms there. Closely related are studies of the relative performance of venture capital backed IPOs in the United States and Japan, by Gompers and Lerner (1999) and Hamao, Packer, and Ritter (1998), respectively. Gompers and Lerner draw lessons for the debate on universal banking.

of combined bank lending and equity underwriting.[3] Second, our study combines post-issue accounting profitability and post-IPO stock returns as measures of firm performance.[4] Third, it is the first to analyze empirically implications of combined bank lending, equity underwriting, *and* fund management.

This aspect of universal banking—the combination of underwriting securities and fund management—has not received attention in recent empirical work. In 1933, with the passage of the Glass-Steagall Act, Congress barred bank affiliates from owning and dealing in securities.[5] Investment funds and US banks kept searching for ways to circumvent this legislation, by reincorporating as holding companies in the 1950s,[6] or by increasing the amount of stock they managed as trustees.[7] In the past two decades the separation of investment trusts from banking has been eroding. Banks in the United States now advise pension funds, manage trust funds, and have begun to sponsor mutual funds.[8] The recent move to repeal the Glass-Steagall Act will most likely increase bank involvement in these activities.

Another noteworthy development is the consolidation wave in the financial services industry. The number of US banks and banking organizations has fallen by about 30 percent between 1988 and 1997, with the share of total assets held by the eight largest organizations rising from 22.5 to 35.5 percent.[9] The bank merger wave and the process of consolidation of banks with non-bank financial firms has raised concerns of excessive market power in the financial services industry. A case in point is the recent mega-merger of Citicorp and Travelers into one of the biggest financial groups anywhere (Citigroup) that "will have formidable positions in consumer banking, corporate finance, stockbroking, mutual funds and life insurance." (*The Economist*, April 11, 1998.)[10] The fusion of the banking and securities industries

---

[3]Data limitations render such a study for the United States very hard. In the sample constructed by Kroszner and Rajan (1994), for example, there are only 11 common stock issues but 133 bond issues by bank underwriting affiliates. As a consequence, Kroszner and Rajan focus almost entirely on bond issues. As for Continental European countries, although banking in these countries is typically universal, stock markets are not very active, certainly not in terms of IPOs, rendering such a study hard to perform.

[4]Most of the studies mentioned in footnote 2 focus on post-issue bond yields or default rates.

[5]Roe (1994), quoting from the 1934 Pecora Report, states that Congress sought to "completely divorce investment trusts from investment banking." As a result, the SEC sought a Glass-Steagall type of severance, but eventually had to compromise with the mutual funds industry, achieving nevertheless substantial severance; see pages 95 and 103–4.

[6]Since holding companies were not as stringently regulated, they could own stock. In response, Congress enacted the 1956 Bank Holding Company Act which restricted the activities of holding companies.

[7]In the 1960s, Wright Patman, head of the House Banking Committee, investigated big banks' ownership of stock as trustees, resulting in the Patman report which warned against the growing power of bank trust departments; see Roe (1994), p.98.

[8]Roe (1994, footnote 5, p.95) cites a 1984 US Court ruling upholding the Federal Reserve's authorization of Bank of America to acquire Schwab, a securities dealer, and the Federal Reserve's approval of an application of commercial banks to engage in some brokerage activities. Gande et al. (1997) provide ample discussion of the recent erosion, in the United States, of the legislation regarding the separation of commercial banking (i.e., bank lending) and securities underwriting.

[9]See Berger, Demsetz, and Strahan (1999).

[10]The Citicorp-Travelers merger is not an isolated case. Roe (1994, p.100), for example, quotes a *Business Week* article

poses regulatory questions that have to do with consumer protection—it is important, for example, to keep banks from "stuffing shares they have underwritten into the portfolios of unknowing customers." (ibid.) Our empirical work provides evidence on precisely such behavior.[11]

We evaluate the relative post-issue performance of the firms in our sample according to their affiliation with banks and bank affiliated underwriters and investment funds. To evaluate post-issue performance we use several measures of accounting profitability, as well as stock returns on the first day and during the first year following the IPO. We find that the average post-issue accounting profitability of firms underwritten by a bank affiliated underwriter that were also borrowers from the same bank in the IPO year, is significantly better than average.[12] We also find, however, that these firms exhibit negative stock excess returns during the first year following the IPO, as well as negative first day returns which suggests that the negative one-year returns are partly driven by IPO overpricing. We further find that the post-IPO stock returns for the (small) sub-sample of firms whose equity was purchased by an investment fund affiliated with the bank underwriter-lender exhibited extremely low stock returns both on the first day and during the first year.

We interpret these findings as evidence that universal banks use their superior information regarding client firms to float the stock of the cherries, not the lemons (as measured by post-accounting performance), which is fully consistent with evidence provided by the above cited papers regarding debt floatations in the United States. At the same time, the results suggest that bank managed funds pay too much for bank underwritten IPOs, at the expense of the investors in the funds. Although caution must be exercised in interpreting the latter result, due to the small sample number of such firms in our sample, we believe that it should raise concern about potential conflict of interest in the combination of bank lending, underwriting, and fund management.

Our interpretation of the empirical findings includes two additional ingredients. The first, is that financial conglomerates exhibit higher "loyalty" to client firms than to investors in funds.[13] The second,

---

(September 9, 1991) reporting that "the recent wave of big-bank mergers fed law-makers' fears that allowing interstate branching would create a handful of monopolistic megabanks." The recent mega-merger wave in the French and Japanese banking systems, and the involvement of Deutche Bank in the U.S. investment banking industry are yet other examples of the same worldwide phenomenon.

[11] The recent Israeli experience is relevant for many regulatory issues raised by these developments since banks in Israel are heavily involved in both underwriting and investment fund management. Since the banking system is very concentrated—an aspect that cannot be ignored when interpreting some of our empirical findings—it is even more directly relevant for many European countries such as France or Germany where concentration in banking is much higher than in the United States, and where powerful banks are involved in underwriting or fund management.

[12] For brevity, we will often refer to such firms as firms with a bank underwriter-lender.

[13] Michaely and Womack (1999) provide a similar interpretation for their results.

3

is potential collusion among universal banks. We stress that, although collusion certainly facilitates IPO overpricing, the empirical results cannot be rationalized only by collusion.

As a by-product of our analysis, we find an overall decline in post-issue accounting profitability (which is in line with findings in other countries) and a positive correlation between holdings by large shareholders and accounting profitability. By contrast, we find that bank debt concentration is not correlated with performance. We briefly interpret these findings although they are not a main focus in this paper.

The next section is devoted to a description of relevant aspects of universal banking in Israel and the IPO wave of the 1990s. In Section 3 we describe the data. Section 4 is devoted to the empirical analysis and the interpretation of the results, and Section 5 concludes the paper with a brief discussion of their relevance for financial markets regulation.

2 Universal banking in Israel and the IPO wave of the 1990s

As in many Continental European countries, banks in Israel are truly universal, managing investment funds, and controlling subsidiaries that specialize in underwriting.[14] The banking system is highly concentrated, and the combined assets of the two largest banks constitute almost three-quarters of total bank assets.[15]

In the 1990s, provident retirement funds (long term saving instruments enjoying tax benefits, that can be redeemed after a period of no less than 15 years) managed approximately 20 percent of the public's financial assets. The funds are mostly bank managed (about 80 percent) with the three largest banks controlling about 45 percent of this segment of the market. Mutual funds, a short term liquid form of investment, are also closely affiliated with the banks, with more than 75 percent of assets managed by the three largest banks.[16] Furthermore, the banks are quite dominant in underwriting (see below for details). The government still owns bank shares (in 1983 it became the owner of a large fraction of the banking system and is in the process of privatizing the banks[17]) but it has never been actively involved

---

[14]Banks also own the stocks of manufacturing and insurance firms, and in some cases up to 25 percent of a single firm's equity. We do not address this issue here; see Gorton and Schmid (1994) and Puri (1999).

[15]In the 1990s, the Herfindahl index in the local currency non-indexed bank deposit and bank credit segments of the market was about 0.25, which is comparable to concentration in several European countries. For example, in 1990 the Herfindahl index of total bank assets was 0.24 in the Netherlands and 0.23 in Norway.

[16]Pension funds, unlike provident and mutual funds, are mostly managed by the labor unions, investing mainly in subsidized non-marketable government bonds. See Blass, Yafeh, and Yosha (1998) for more details regarding the investment funds industry.

[17]See Yosha (1995).

4

in bank managerial decisions.

The financial markets reform, initiated in 1985, brought about a drastic reduction in the government's involvement in financial markets and an extensive liberalization of international capital flows.[18] Among the reform measures that were adopted, "Chinese Walls" were created between underwriting, fund management, and commercial banking activities. Despite these restrictions it is often argued that the steps taken were not satisfactory and that the danger of conflict of interest among various lines of business remains substantial.[19]

The reform, together with the economic boom that Israel experienced in the early 1990s, led to considerable development of the Tel Aviv Stock Exchange. Provident funds now invest in corporate stocks and bonds, and disclosure requirements (e.g. regarding top management compensation) are similar to those enforced by the SEC in the United States. Most important, perhaps, about 130 manufacturing firms went public during the period 1991–4. The banks were heavily involved in the IPO wave. In about 75 percent of the IPOs in our sample a bank affiliated underwriter was one of the leading members of the underwriting consortium, and for approximately 37 percent of the firms in the sample a bank managed fund purchased at least 5 percent of the equity of the newly issued firm.[20]

3 Data

The sample consists of 128 Israeli manufacturing firms that went public on the Tel Aviv Stock Exchange during the period 1991–4 (8 in 1991; 43 in 1992; 56 in 1993; and 21 in 1994). We use the following data regarding these firms, through 1995: (1) Financial statements of the firms, available for the two years prior to the IPO and for all subsequent years; (2) the number of banks each firm borrows from and the amounts borrowed. These data are from the Supervisor of Banks at the Bank of Israel. Banks are required to report to the Supervisor only transactions with large borrowers (defined, in that period, as borrowers with bank debt higher than 1.7 million New Israeli Shekels—about $0.5 million—for large

---

[18]See Ben Bassat (1993), Bufman and Leiderman (1995), and Yafeh and Yosha (1998).

[19]The following anecdote is instructive. The Israeli Treasury filed a complaint with the police against the two largest Israeli banks that had allegedly bought in 1994, via their provident funds, a large fraction of the IPO of an Israeli company despite evidence that the company was in bad shape. The reason for purchasing the stock was that the company owed large sums to the banks who bought the firm's stock, on behalf of the depositors in the provident funds, to prevent the company from going under. In the two quarters following the IPO the company lost approximately $7 million, the entire amount raised in the IPO. The story was published in *Telegraph* (June 27, 1995), an Israeli daily financial newspaper, regarding a company named Yesh-Gad. Our empirical results, however, suggest that this kind of story is the exception, not the rule.

[20]During our sample period, IPO manufacturing firms issued on average about 20 percent of their equity. Purchasing more than 5 percent of the newly issued shares means, on average, purchasing more than one fourth of the issued equity.

banks, and with somewhat less debt for smaller banks). Approximately sixty percent of the publicly traded manufacturing firms (and of manufacturing IPO firms) are defined as large borrowers by at least one bank. Since firms that borrow from several banks might qualify as large borrowers only for some of the lending banks, potentially rendering our bank debt data imprecise, we compare the total bank debt reported by the banks to the Supervisor with the total bank debt reported in the firms' financial statements. The discrepancies are minimal, suggesting that there is no danger of bias due to reporting practices; (3) the ownership structure of the publicly traded firms is constructed from reports on large shareholders and company executives published annually by the Tel Aviv Stock Exchange. These data include the combined ownership of company executives and large shareholders owning at least 5 percent of the company's equity, as well as shareholding by banks and their subsidiaries;[21] (4) the ownership structure prior to going public and the identity of the underwriters are from the IPO prospectus submitted by each firm; (5) firm age is from the Registrar of Companies; (6) stock returns are official Tel Aviv Stock Exchange data.

Table 1 displays descriptive statistics of the sample.[22] Firms with a bank underwriter that was also a major lender (Panel B) are bigger and older than the rest of the firms in the sample (Panel C), and exhibit lower bank debt concentration and somewhat higher leverage. There are no meaningful differences in average ownership concentration and profitability between the two groups.

The pre-IPO fraction of the equity held by large shareholders is 96.2 percent, while the post-IPO holdings average at 80.8 percent.[23] Israeli manufacturing firms are, therefore, closely held even after going public. We measure leverage as the ratio of total debt to liabilities.[24] Leverage before the IPO is 0.61 on average, declining to 0.36 after the IPO. This may be due to a desire on the part of firms to reduce bankruptcy risk, or it may simply reflect a general process of reduction in bank financing, independently of risk considerations.[25]

There is a positive relation between the age of firms and their size. Large shareholders concentration is similar for small and large firms.[26] Bank debt concentration, calculated from reports of banks to the

---

[21]For brevity, we refer to "company executives and large shareholders" as large shareholders.

[22]We include in the sample only firm-years with profitability not larger than 100 percent and not smaller than negative 100 percent in all years. Only three observations are omitted for this reason.

[23]To economize on space, the information in the current and the next paragraphs is not displayed.

[24]Since for some firms book equity is very low, and even negative in a few cases, the ratio of total debt to book equity seems less appropriate as a measure of leverage.

[25]Since the corporate bond market in Israel has remained underdeveloped, providing only negligible funds to manufacturing firms (Yafeh and Yosha 1998), equity financing via IPOs may be interpreted as a way of reducing debt financing *per se* or, alternatively, as a way of reducing bank financing.

[26]Small and large are measured relative to average firm size in the sample.

Supervisor of Banks, is higher for small firms, reflecting better opportunities to diversify credit sources for large firms. Alternatively, lower bank debt concentration for bigger firms may reflect constraints imposed on banks by the Supervisor regarding the amount of credit (as a fraction of bank equity) that can be extended to a single firm. There are no substantial differences across industries in bank debt concentration and ownership concentration. Profitability and size do, however, vary across industries.

4 Empirical Analysis

In the next subsection we briefly study the post-issue accounting profitability of the entire sample. In subsequent subsections we proceed to the analysis of conflict of interest in universal banking, comparing the post-issue accounting profitability and the stock returns of IPO firms with and without bank lenders who were also involved in the IPO as underwriters or fund managers.

4.1 Post-issue accounting performance

We examine whether profitability changes following an IPO by running the following regression. The dependent variable is a measure of profitability (described later). The main regressor is a dummy variable, ISSUE, that takes the value zero for firm-years prior to the IPO and the value one for firm-years following the IPO, including the IPO year. ISSUE is, therefore, a status variable that splits the sample into publicly traded and privately owned firms. The estimated coefficient of ISSUE represents the marginal effect of the change in status on the dependent variable.

To control for potential differences in corporate governance across the firms in our sample we include as regressors measures of ownership concentration, bank debt concentration, and leverage. As a measure of ownership concentration we use LGOWN, the total share of the firm's equity held by large shareholders. Since the pre-IPO holdings are available only for the year prior to the IPO, we assume that the ownership structure does not change across the two years prior to the IPO.[27] If large shareholders discipline managers, or if managers are themselves large shareholders (LGOWN includes equity owned by senior officers of the company) then we would expect this variable to have a positive effect on profitability.[28] Causality may, of course, run in the other direction with performance influencing

---

[27]This is not a strong assumption since in the year prior to the IPO large shareholders hold 96.2 percent of the equity on average.

[28]Since the correlation of LGOWN and the Herfindahl index of ownership concentration is high, we do not include both variables as regressors. We further construct CEO shareholding as follows. The fraction of equity held by the CEO is from the large shareholders and company executives reports published annually by the Tel Aviv Stock Exchange. The CEO's

ownership concentration (a "smart money" effect). We discuss this possibility when we present the empirical results.

If banks indeed monitor firms, then it is reasonable to expect that monitoring will be more effective for firms with higher debt concentration. A bank that lends large amounts to a firm may have a greater incentive to reduce managerial waste, as well as greater influence on the behavior of managers, especially if the firm obtains a large fraction of its debt from this bank. We, therefore, include the variable HRFCRED, a Herfindahl index of concentration of the firm's bank debt, as a regressor.

An IPO, in and of itself, is accompanied by lower leverage. According to the free cash flow hypothesis this should facilitate managerial empire building,[29] and should lead to lower profits. We, therefore, include LEVERAGE, the ratio of total debt to liabilities, as a regressor. Other right hand side variables are SIZE, the size of the firm's balance sheet, and AGE, the number of years since incorporation. We include year dummies to control for aggregate year-specific effects and industry dummies to control for industry-specific effects.

To ensure that the results are robust, we experiment with various measures of profitability and with alternative empirical specifications. As left hand side variables we use net profits normalized by sales (PROF), operating profits normalized by sales (OPERAT), the return on assets (ROA), and the return on equity (ROE). The results are qualitatively similar, and we proceed in the remainder of the paper with PROF, net profits normalized by sales.

In our preferred specification, the variables are measured in levels, where observations are firm-years. The interpretation of regressions in levels for firm-years ("pooled" data) is that every year, given the explanatory variables, the dependent variable is determined for each firm independently of previous or subsequent years. To neutralize potential firm-specific effects, we also try a specification with fixed-effects (using the profitability measure PROF), measuring each variable as a deviation from its mean, where the mean is calculated for each firm over the years in the sample.[30] For AGE and ISSUE we include the actual variable (not the deviation from the mean). The results (reported later) are overall

---

name is from the Tel Aviv Stock Exchange Yearbook, published by *Globs*. Regressions of various profitability measures on CEO holdings yield no statistically significant results, and are not reported. Also of potential interest is a decomposition of LGOWN to finer categories, in particular direct holdings by banks. Since our focus here is not on corporate governance *per se* (we only want to control for ownership by large shareholders), and since this decomposition is not straightforward (e.g., it cannot be carried out fully for one of the largest banks), we stick to the variable LGOWN.

[29] Jensen (1986).

[30] Let x_{it} denote a variable for firm i in year t. Let $\bar{x}_i$ be the average of x_{it} over the years for which we have observations regarding firm i. We include in the regressions the variable $x_{it} - \bar{x}_i$. The firm fixed-effects wash out, of course, while the time fixed-effects are captured by the four year dummies and a constant.

similar.[31]

Another econometric issue is that firm-year observations may not be independent over time. Since the cross-sectional dimension of the sample far exceeds the time-series dimension, serial correlation in the data is not likely to constitute a serious problem. Nevertheless, when we test for potential conflict of interest we also try the following specification that addresses this issue. We compute the average value of PROF in the years before the IPO and in the years following the IPO, and compute the difference, DPROF. We then check whether DPROF is affected by, e.g., whether firms had a bank underwriter-lender. As we report later, the results of this specification are similar.

Our data allow us to calculate bank debt concentration only for a subset of the firm-years in our sample. If in a particular year a firm is defined as large borrower by the Supervisor of Banks (see Section 3 for the criteria) information regarding its bank debt in that year is available. Since investment, profit retention, and financing policies of firms determine whether they choose to become large borrowers, there is potential selection bias in our sample, which is corrected as follows. Using the entire population of manufacturing firms publicly traded on the Tel Aviv Stock Exchange, of which approximately 40 percent are not defined as large borrowers, we run a probit regression where the dependent variable is a dummy variable that takes the value one when the firm is a large borrower. As explanatory variables we include the firms' age, size, and industry dummies. The coefficients of age and of several of the industry dummies are highly significant, whereas size is not. Then, to control for potential selection bias in the profitability regressions, we include the Inverse Mill's Ratio (that was estimated in the probit procedure) as a regressor.[32]

As will be shown later, the Inverse Mill's Ratio obtained from this large borrower probit regression is not statistically significant as an explanatory variable in the profitability regressions, suggesting that the profitability of large borrowers is not different on average from that of other firms. Furthermore, bank debt concentration, HERFCRED, is not statistically significant in all the profitability regressions which suggests that if banks have a monitoring role it does not decrease when firms borrow from several banks. In light of this, and since the inclusion of bank debt concentration as a regressor reduces the sample from about 600 to 320 firm-years, we also report regressions using the full sample of firms (not only large borrowers), omitting the variable HRFCRED. These regressions yield very similar results.

Another sample selection issue is that our data set includes only firms that went public. The

---

[31]A specification combining levels and differences also yields similar results.

[32]Since profitability is the dependent variable, namely we regard it as an endogenous variable which is determined every year as a function of firm characteristics, we did not include it as a regressor in the probit analysis.

interpretation of the coefficients of variables such as LGOWN and HRFCRED is, therefore, limited to publicly traded firms. To generalize the results to all firms one must control for potential selection effects in the going public decision, but we have been unable to obtain a good sample of privately held manufacturing firms that could but did not go public. This is not central for our study, especially not for the main question regarding the effect of bank underwriting, lending, and fund management on post-IPO performance.[33]

The results are displayed in Table 2.[34] In all the regressions and for all the profitability measures, there is a clearly visible and statistically significant decline in profitability after an IPO, as can be seen from the negative and highly statistically significant negative coefficient of the status variable ISSUE. The results for the entire sample (i.e., not only for large borrowers) are very similar; see the last column of the table.

The magnitude of the coefficient of ISSUE is interpreted as follows. Controlling for the dilution of ownership, for potential changes in bank debt concentration, and other variables, the change in status from a fully privately held company to a publicly traded company induces a decrease in profitability of, e.g., 4.9 percentage points (the first column of Table 2). Compared to the 6.9 percent average profitability in our sample (Table 1), the decrease in profitability is substantial.[35] The results of regressions with different profitability measures are presented to emphasize the robustness of the findings, but our focus from now on will be on the regression with PROF as the dependent variable.

In all the regressions there is a strong and highly significant negative effect of leverage on profitability. If higher leverage is associated with higher risk then, in an efficient market, it should be associated with higher profitability. If leverage imposes discipline on managers, higher leverage should also entail higher profitability. The negative coefficient of leverage is not consistent with either of these interpretations.[36]

---

[33]Pagano, Panetta, and Zingales (1998) perform a comprehensive empirical study of the going public decision, using an impressive data set that includes accounting information for a large sample of privately and publicly held firms. They find that the likelihood of going public is greater the higher the market-to-book ratio at which firms in the same industry trade. In addition, faster growing, larger, and more profitable companies are also more likely to go public.

[34]In this table we do not (yet) test for conflict of interest.

[35]By including ISSUE as a regressor we are in fact regarding the timing of the IPO as being chosen independently of profitability. (The decision whether to go public is not relevant here since all the firms in our sample go public eventually). The magnitude of the coefficient of ISSUE in the regressions using ROA and ROE is larger than in the regression using PROF, which is most likely due to the fact that when new capital is raised, total assets and total equity increase right away whereas the return to new investment takes time to materialize. The profit to sales and the operating profit to sales ratios are not automatically affected by new equity or new assets on the balance sheet.

[36]A potential interpretation is that leverage proxies for investment since firms that make large investments in plants and equipment are likely to borrow against these assets. These investments may mature slowly resulting in low profitability for a few years. According to this interpretation, the coefficient of ISSUE should be regarded as the change in profitability controlling for the amount of investment in collateralizable assets.

The coefficient of LGOWN is in general positive and often statistically significant. This is consistent with the idea that large shareholders play an important role in corporate governance.[37] However, since the coefficient of LGOWN may also reflect a "smart money" effect—shareholders of profitable firms dilute ownership less—we do not want to further interpret the coefficient of this regressor.[38]

Finally, since 1993 was a "hot issue market" year on the Tel Aviv Stock Exchange, low quality firms may have taken advantage of the stock market boom to go public. Nevertheless, in a regression (not reported) with a dummy variable that takes the value one in 1993, 1994, and 1995 for firms that went public in 1993, the coefficient of this variable is not significantly different from zero, while the coefficients of the other variables are virtually unaffected.[39]

The precise interpretation of the decline in profitability following an IPO is not central for our analysis of potential conflict of interest in universal banking. Our main concern will be whether the decline in profitability of firms whose lending bank was also involved in the IPO is larger or smaller than average. Such differences across firms in post-IPO performance are likely driven by considerations related to universal banking.[40]

---

[37]Shleifer and Vishny (1986, 1997).

[38]For most firms in the sample, LGOWN is almost constant through time (except in the year of the IPO). Therefore, in the fixed-effects regression, the variable LGOWN for a given firm does not vary much around its time average (see footnote 30), and will have little explanatory power.

[39]We also tried specifications with the variables log-AGE, AGE squared, and similarly for SIZE, obtaining almost identical results.

[40]It is worth pointing out that the decline in accounting profitability following an IPO is an empirical regularity that seems to transcend the structure of the financial system and the regulatory environment. Jain and Kini (1994) and Mikkelson, Partch, and Shah (1997) document the phenomenon for two samples of US firms, Pagano, Panetta, and Zingales (1998) for a sample of Italian firms, and in this study we find the same result for Israeli firms. DeGeorge and Zeckhauser (1993) find similar results for a sample of reverse leveraged buyouts in the United States. Potential explanations of the phenomenon include pre-IPO window dressing (although we will show that our results regarding potential conflict of interest are not driven by window dressing), and reduction in bank monitoring due to the lower dependence of firms on creditor banks (although an IPO may improve monitoring by allowing managerial compensation to be conditioned on stock price performance; see Hölmstrom and Tirole 1993). Our findings are consistent with the reduction in bank monitoring interpretation, yet we do not detect a significant effect of bank debt concentration on profitability. What seems to matter for profitability is the status of the firm—whether it is a publicly traded company or whether it is (still) under the exclusive supervision of large shareholders and banks. The decline in post-IPO performance in our sample is not driven by a "hot issue market" effect, and since we control for age, the measured decline in profitability is not simply due to a natural "life cycle" in the financing patterns of firms. Of course, we cannot rule out the possibility that firms go public when they feel that profitability has reached a peak, as pointed out in some of the above mentioned studies.

4.2 Post-IPO accounting profitability and universal banking: Conflict of interest or superior information?

To measure the effect of bank underwriting and lending on post-IPO profitability, we construct a dummy variable that takes the value one if a bank served as a leading underwriter of the firm's IPO and the firm was a large borrower from the same bank in the IPO year, where leading underwriters are identified in the IPO prospectus and "large borrower" is defined by the Supervisor of Banks (see subsection 3 for the criteria). The variable takes the value one for roughly one third of the firms in the sample. We will refer to this variable as the bank underwriter-lender dummy. We also construct the variable REPAY, the fraction of the IPO proceeds designated in the IPO prospectus for the repayment of bank debt, that we interact with the bank underwriter-lender dummy. For each firm, the bank underwriter-lender dummy takes the same value in all years, before and after the IPO. The variable REPAY also takes the same value in all years, before and after the IPO. Econometrically, these variables are "characteristics" of the firm; when interacted with ISSUE, their coefficients measure their marginal effect on the change in profitability following an IPO.

The first two columns in Panel A of Table 3 display the results of profitability regressions, for the sample of large borrowers and for the entire sample, respectively, with the bank underwriter-lender dummy as an additional regressor. The inclusion of this variable does not affect the coefficients of the other regressors, and its coefficient is positive but not significantly different from zero.

The third and fourth columns in Panel A of Table 3 display the results of profitability regressions with the bank underwriter-lender dummy interacted with the status variable ISSUE. The coefficient of this variable measures the change in profitability following the IPO of firms with a bank underwriter-lender above and beyond the change in profitability of the other firms.[41] The coefficient is positive and statistically significant in both regressions, and the coefficients of the other regressors are not affected. The coefficient is also economically significant: The post-issue accounting profitability of firms with a bank underwriter-lender declines by 2.5 or 1.5 percentage points *less* than average (see columns 3 and 4 in Panel A, Table 3). When both the bank underwriter-lender dummy and the bank underwriter-lender dummy interacted with ISSUE are included as regressors, the sign and significance levels of virtually all the coefficients do not change, including the coefficients of ISSUE and of the bank underwriter-lender

---

[41]In this specification, the "event" (and the corresponding dummy variable) is: "a firm with a bank underwriter-lender has gone public." All pre-IPO differences in performance are then averaged in the common intercept, and post-issue effects of having a bank underwriter-lender are measured by the coefficient on the interaction dummy variable.

dummy interacted with ISSUE.[42] As a further test, we run the same regression (not reported) with the bank underwriter-lender dummy (not interacted with ISSUE) using only post-IPO firm-years, i.e. with firms-years for which ISSUE=1, getting a positive and significant coefficient for the bank underwriter-lender dummy.

To check whether firms that are affiliated with a bank, in the sense captured by the bank underwriter-lender dummy, differ *ex-ante* from other firms in terms of profitability, we run the same regression (not reported) using only pre-IPO firm-years, i.e. with firm-years for which ISSUE=0, obtaining an insignificant coefficient for the bank underwriter-lender dummy. As a robustness check, we run a probit regression using pre-IPO data where the bank underwriter-lender dummy is the dependent variable, finding no a priori self-selection patterns in the the choice of underwriter by firms. In particular, the pre-IPO profitability of firms with a bank underwriter-lender is not different than average. Thus, it is not the case that bank underwriter-lenders attract more profitable firms; rather, they succeed in identifying the more *promising* firms—those whose post-issue profitability will turn out to decline less.[43]

Thus, even though it is not possible to identify the firms for which post-IPO performance will decline less than average on the basis of publicly observed pre-IPO information alone, bank underwriters that are also lenders succeed in selecting such firms, probably as a result of private information about their management, corporate culture, and investment opportunities which is generated through the lender-borrower relationship. The results provide no support for the view that banks exploit the potential for conflict of interest by issuing the securities of below average firms. On the contrary, our findings regarding post-IPO accounting profitability suggest that the combination of bank lending and underwriting yields better informed underwriting.

We further argue that window dressing cannot explain the observed differences in post-IPO performance between firms with and without a bank underwriter-lender. If window dressing were driving these differences, the positive coefficient of the bank underwriting and lending dummy interacted with the status variable ISSUE would be interpreted as indication that firms with a bank underwriter-lender window

---

[42] This alternative specification, which is also very plausible, allows for different intercepts for firms with and without a bank underwriter-lender, namely, before the IPO, when ISSUE=0, the profitability across such firms may be different. The results of this regression (not shown) are virtually identical to those reported in the third column of Panel A, Table 3, and the implied magnitude of the post-IPO difference in profitability is also unchanged.

[43] We also run the same regressions using other profitability measures (OPERAT, ROE, ROA), and a regression with firm fixed-effects, obtaining similar results. Finally, we regress DPROF, the change in average profitability, before versus after the IPO, on several variables including the bank underwriter-lender dummy obtaining a negative coefficient for this variable, i.e., the decline in profitability is smaller for firms with a bank underwriter-lender. The same regression for the larger sample, obtained by omitting the bank debt concentration variable, also yields a negative and significant coefficient for the bank underwriter-lender dummy.

dress less than average and firms without a bank underwriter-lender window dress more than average. But then, since window dressing prior to an IPO means transferring profits through "creative accounting" from the future to the present, we should expect that firms without a bank underwriter-lender will exhibit higher than average pre-IPO profitability and lower than average post-IPO profitability. Our results indicate, however, that post-IPO profitability is lower than average for firms without a bank underwriter-lender, but pre-IPO profitability is not higher than average.

The fifth columns in Panel A of Table 3 displays the results of a profitability regression with the bank underwriter-lender dummy interacted with REPAY as an additional regressor. The coefficient of this variable indicates whether, for firms with a bank underwriter-lender, profitability is affected by the fraction of the IPO proceeds designated for repayment of bank debt. The last column displays the results of a similar regression with the bank underwriter-lender dummy interacted with both REPAY and ISSUE, capturing whether the change in profitability following an IPO depends on the fraction of the proceeds designated for repayment of bank debt. The inclusion of these variables does not affect the coefficients of the other regressors. The coefficients of these variables are positive but not significantly different from zero. These results strengthen our conclusion that there is no conflict of interest (using post-IPO profitability as a measure of quality) in the combination of bank lending and underwriting. If banks wanted to exploit the potential for conflict of interest they would have issued the equity of low quality firms that owe them large sums of money to help these firms repay their bank debt. We find no evidence in support of this claim.

We turn to our first test of conflict of interest in the combination of bank underwriting, lending, and fund management. During our sample period, IPO manufacturing firms issued on average about 20 percent of their equity. We construct the dummy variable FUNDLEND that takes the value one if a bank managed investment fund purchased at least 5 percent of the newly issued shares (which on average constitutes about one fourth of the issue) during the first year following the IPO and if the firm was a large borrower from the same bank in the IPO year.[44] We then construct the dummy variable BIGCONF that takes the value one if FUNDLEND=1 and, in addition, the same bank was a leading underwriter of the firm's IPO. That is, BIGCONF is the intersection of the bank underwriter-lender dummy and FUNDLEND. Consider Panel B of Table 3. The point estimates of the coefficients of FUNDLEND, of FUNDLEND interacted with ISSUE, of BIGCONF, and of BIGCONF interacted with

---

[44] We do not have data regarding the amount of equity purchased by bank managed funds during the IPO itself, although it is common knowledge among practitioners that institutional investors, and bank managed funds in particular, are active buyers in IPOs and are usually the first to submit purchase orders for IPO stock.

ISSUE, for the entire sample as well as for the sub-sample of large borrowers, are positive, although none is significantly different from zero. Clearly, on the basis of post-issue accounting profitability, there is no evidence that bank managed funds were involved in purchasing the stock of the lemons.

4.3 Post-IPO stock returns

The sample

The analysis of post-IPO stock returns is performed with a sample of 82 IPOs (out of the 128 IPOs used to study post-IPO accounting performance). The reason for excluding 46 firms is that they issued bundles of straight equity and other (e.g., convertible) securities that were not priced separately in the IPO day, rendering the computation of excess returns hard. Descriptive statistics for the sub-sample we use here and the 46 excluded firms are displayed in Panel A of Table 4. There are no apparent differences in average profitability, size, age, leverage, and shareholder or bank debt concentration. Nevertheless, to ensure that we do not create a selection problem, we run a probit regression where the dependent variable is a dummy for issuing such bundles. The coefficients of all the explanatory variables are not significantly different from zero, including accounting profitability and the bank underwriter-lender dummy. We conclude that no apparent selection bias is created by focusing on firms that did not issue bundles of straight equity and other securities. As a further check, we repeat the accounting profitability regressions described in the previous subsections for the sub-sample of firms issuing equity only, obtaining very similar results (not shown).

Calculating post-IPO stock returns

For each firm we calculate the first day returns using the opening and closing price on the day of the IPO. To calculate the excess (cumulative) returns during the first year after the IPO we use the following procedure. For each stock we compute weekly returns, adjusted for dividends, for 104 weeks since the IPO.[45] Using the returns in weeks 53–104 after the IPO, weekly returns of the general index of the Tel Aviv Stock Exchange, and weekly averages of nominal money market (short term) bank rates as a proxy for the riskless interest rate, we estimate for each stock the intercept and slope in a CAPM regression.[46] Using the point estimates of intercept and slope, the market returns, and the riskless rate proxy for the corresponding weeks, we construct the expected returns for each stock, according to the

---

[45] The first week returns include the first day returns.

[46] We test for stationarity of the time series used in these regressions (we perform a Dickey-Fuller test with a constant, a time trend, and two lags), strongly rejecting a unit root in virtually all the cases. The "beta" estimates are mostly between zero and unity, and in most cases are significantly different from zero.

market model. Using the returns of the stock in weeks 1–52 after the IPO we then compute excess returns.[47]

Average post-IPO stock returns

The first day stock returns and the first year excess returns for the entire sample are displayed in the first row of Panel B, Table 4. The point estimates for the entire sample indicate that there is no underpricing (on average) in the first day, and there are negative excess returns (although not significantly different from zero) in the first year, which is consistent with well known findings regarding long-run performance of IPOs.[48]

Post-IPO stock returns for firms with a bank underwriter-lender

We split the sample according to the bank underwriter-lender dummy that was used in the previous section. The stocks of firms with a bank underwriter-lender exhibit negative (significant at the 5 percent level) excess returns (-18.4 percent) during the first year, which are also significantly different (at the 1 percent level) from the 1.3 percent excess returns of firms without a bank underwriter-lender; see the second and third rows of Panel B, Table 4. The stocks of firms with a bank underwriter-lender also exhibit (not statistically significant) negative first day returns (i.e., IPO overpricing) which are, however, significantly different (at the 1 percent level) from the first day returns of firms without a bank underwriter-lender. Therefore, despite the fact that firms with a bank underwriter-lender exhibit higher than average post-issue accounting profitability, their newly issued stocks exhibit lower than average post-issue returns.

Who paid so much for these IPO stocks?

Firms with a bank underwriter-lender whose stocks were purchased by a fund managed by the same bank

We split the sub-sample of firms with a bank underwriter-lender according to the dummy variable FUNDLEND, that takes the value one if a bank managed investment fund purchased at least 5 percent

---

[47] We also compute excess returns by subtracting the market returns from the stock returns (without controlling for risk in any way) obtaining very similar results in the subsequent analysis. A different empirical approach is taken by, e.g., Brav and Gompers (1997). They divide publicly traded firms into "cells" according to relevant characteristics (such as size), and compare the stock performance of every IPO firm to the performance of the portfolio of traded firms that constitute the corresponding cell at various dates. The main advantage of their method is that it allows for variation in firm characteristics and stock returns over time. In our analysis we control for firm characteristics by including them as regressors (in fact, we can more easily control for many such characteristics), but at the cost of imposing a more rigid and, in particular, time invariant "linear structure" on the data. Our method seems reasonable given the relatively small number of manufacturing firms traded on the Tel Aviv Stock Exchange prior to the IPO wave.

[48] Ritter (1991).

of the shares of the newly issued stocks during the first year since the IPO, and the firm was a large borrower from the same bank in the IPO year. There are seven firms with a bank underwriter-lender for which FUNDLEND=1.[49] The stocks of these firms exhibit highly negative and significant (at the 5 percent level) excess returns during the first year (-32.3 percent), as well as negative first day returns (significant at the 5 percent level).[50] These first day and first year returns are highly significantly different from those of the stocks of firms with a bank underwriter-lender for which FUNDLEND=0; see the fourth and fifth rows of Panel B, Table 4. The results are not driven by outliers—the first day and first year excess returns are very low for virtually each and every one of these firms.[51] Therefore, bank managed investment funds paid too much for stocks issued by the bank underwriter-lenders to which the purchasing funds are affiliated. In the next subsection we interpret these results, and provide a coherent story that can accommodate the higher than average post-issue accounting profitability and the lower than average post-issue stock returns.

Firms whose stocks were purchased by a fund managed by the same bank

At the bottom of Panel B, Table 4 (rows 6 and 7) we display the average excess returns of the stocks of all the firms for which FUNDLEND=1. These include the seven firms with a bank underwriter-lender studied in the previous paragraph, and four additional firms without a bank underwriter-lender. For these four firms, the stock excess returns are not negative, suggesting that bank management of funds per se does nor result in overpriced IPOs of firms borrowing from the same bank; it is the combination of bank fund management with bank underwriting-lending that is associated with poor stock performance.[52]

Firms with a bank underwriter which is not a lender

We further isolate the firms with a bank underwriter that is *not* a lender to the same firm, for which an investment fund managed by the underwriting bank purchased at least 5 percent of the shares of the newly issued firm during the first year since the IPO. There are six such firms, with statistically significant and highly negative (-21 percent on average) stock excess returns (not shown). This suggests that "lending" may not be the central factor that drives IPO overpricing. What seems to create the potential for conflict of interest is the combination of underwriting and fund management, namely, of being both a seller and a buyer of the same security.

---

[49] These are precisely the firms for which BIGCONF=1.

[50] The significance tests should be interpreted with caution due to the small sample size.

[51] The first day returns for these firms are 2.9, -20.7, -26.9, -9.0, -10.0, -3.0, and, -8.0 percent, and the first year excess returns are -55.0, -4.2, -53.3, -25.7, -31.3, -56.6, and -0.2 percent.

[52] Of course, these results must be interpreted with the greatest caution due to the small number of observations.

Is there collusion among universal banks?

To address this question, we turn once more to firms with a bank underwriter-lender for which no fund affiliated with the same bank purchased a significant fraction of the stocks (FUNDLEND=0). The stock excess returns of these firms are not statistically significant from zero, although the point estimate of the one year excess returns is negative 13.3 percent; see the fifth row of Panel B, Table 4. This is weak evidence that a bank underwriter-lender can obtain a good price for the stock it issues even without selling to an investment fund that it manages.

There are nineteen such firms, of which sixteen are firms with a bank underwriter-lender such that no fund purchased at least 5 percent of the IPO shares. The stocks of these firms exhibit first year excess returns that are not significantly different from zero, with a mix of positive and negative returns (averaging at negative 10 percent). The remaining three firms have a bank underwriter-lender such that a fund *not* affiliated with the same bank purchased at least 5 percent of the shares of the newly issued firm during the first year since the IPO. Two of these firms exhibit extremely high negative first year excess returns.[53] Of course, no serious inference can be made from such a tiny number of cases. Yet, it is worth noting that these observations can only be rationalized on the basis of collusion among the universal banks, where a fund managed by one bank pays too much for the stocks issued by another bank. This suggests that transactions across universal banks, where one bank underwriter-lender sells IPO stocks to a fund managed by another bank, may play a role in the poor post-issue performance of these stocks, but, of course, the sample is too small to draw firm conclusions. We will return to the issue of collusion in subsection 4.4.

Regression analysis

Finally, to ensure that the differences in stock returns reported above are not driven by differences in firm characteristics, we performed cross-sectional regressions of one-year excess returns on the bank underwriter-lender dummy variable as well as on FUNDLEND and BIGCONF, separately, controlling for firm size, ownership concentration, industry, and year of issue; see Panel C, Table 4. The coefficients of these dummy variables are highly negative, and are statistically significant, confirming the robustness of the results reported in Panel B, Table 4.

---

[53]The first year excess returns for the three firms are -2.5, -49.2, and -28.2 percent.

4.4   Interpreting the results

Great caution must be exercised in drawing conclusions from the results, due to the small sample size in some of the tests. Nevertheless, the following interpretation emerges.

The evidence that bank underwriter-lenders issue firms with above average post-issue accounting performance is based on a reasonably large sample, and indicates that there are advantages to the combination of bank lending and stock underwriting. Despite the lack of discernible differences between bank-underwritten and other IPO firms prior to the offering, banks seem to put to good use their relationships with borrowing firms, and succeed in issuing the stocks of firms with better than average future accounting performance.[54]

The stock performance of bank underwritten IPOs suggests, however, that this is not the entire story. Investors, no doubt, can and do identify firms with bank underwriter-lenders, and should be aware of the differences in post-IPO profitability reported above. Then, if IPOs are priced correctly, stock prices should reflect the differences in future profitability, and risk adjusted excess returns should be zero for all stocks. Even if IPOs are priced correctly only on average, for instance because investors are unaware of differences in post-IPO profitability among firms, a "representative investor" who buys a portfolio of all the IPOs should earn zero risk adjusted excess returns. The risk adjusted excess returns on the stocks of firms with a bank underwriter-lender should then be *positive* while the excess returns on the other stocks in the portfolio should be negative. Our results are not consistent with either of these scenarios, and suggest that the stocks of IPO firms are priced incorrectly in a systematic way.

The bank underwriter-lenders are, naturally, keen on obtaining a good price for the stocks of their client firms, in order to enhance their reputation as underwriters and increase their profits. Being in control of investment funds, and exploiting their close (collusive) relations with other bank-underwriters who control investment funds, they succeed in selling these stocks to the funds at a high price, a price that entails negative first day returns to investors in the funds. The funds continue to purchase the stocks of these companies for several months following the IPO, or at least refrain from selling them (as can be seen in the large shareholders reports published by the Tel Aviv Stock Exchange), helping to maintain a high price for these stocks. But by the end of the first year the price of these stocks drops substantially generating negative first year excess returns.[55]

---

[54]This interpretation is broadly consistent with the prevalent conclusion that emerges from the studies cited in footnote 2 regarding the quality of bonds underwritten by bank affiliated underwriters.

[55]In Israel, underwriters are not obliged contractually to sustain the price of IPO stocks for any pre-specified period of time. It seems, though, that this is what bank funds did in practice.

There is a built-in potential for conflict of interest in the combination of bank underwriting-lending and bank fund management, since banks must choose between selling the IPO stocks of client firms at a high price, generating a substantial amount of cash in exchange for minimal dilution of ownership, and selling these stocks at a low price generating good returns for investors in the bank managed funds. The banks in our sample have, evidently, made a choice that favors client firms over fund investors.[56]

It is not easy for the investors in the funds to protect themselves against such behavior by the universal banks due to lack of transparency and the presence of non-negligible switching costs (which partly explains why the banks acted as they did).[57]

In light of the highly concentrated market structure of the Israeli financial services industry, there is high potential for collusion among universal banks. Although collusion certainly facilitates overpricing of IPOs, most of our empirical results cannot be rationalized by collusive behavior *per se*. In particular, the highly negative excess returns of IPOs where an underwriter/lender/fund manager was involved cannot be driven only by the highly concentrated market structure of these industries. Lack of competition cannot explain why some economic agents—bank managed funds in this case—systematically purchase overpriced merchandise. If fund managers were independent of underwriter-lenders, they would not agree to buy and hold overpriced securities, whether the market is competitive or not.[58]

As we pointed out earlier, the results regarding firms with a bank underwriter-lender for which a fund *not* affiliated with the same bank purchased a substantial amount of the newly issued equity can only be rationalized on the basis of a combination of conflict of interest and collusion in the financial services industry, where a fund managed by one bank (or a non-bank fund) pays too much for the stocks issued by another bank.[59]

---

[56]This interpretation is analogous to that of Michaely and Womack (1999) who find, for a sample of US IPOs, that the long run performance of firms recommended by their underwriters is significantly worse than average, concluding that there is conflict of interest between the corporate finance and the brokerage divisions of underwriting firms, and that the investing public does not comprehend the full extent of the bias, namely, that brokers-underwriters "protect" client firms at the expense of the investing public.

[57]Michaely and Womack (1999) stress the lack of transparency. In Israel, it is plausible that both factors played a role in preventing investors from voting with their feet, since the investment funds market is concentrated, and since a non-negligible fraction of the deposits in some of the funds (the provident funds) are long-term savings with preferential tax treatment.

[58]Of course, concentration in the mutual fund and provident fund industries helps explain why this situation was sustainable, namely why investors did not immediately sell their holdings in the funds. In 1996 a massive wave of withdrawals from these funds took place. Among the explanations for this wave of withdrawals is the poor performance of the funds to which the performance of IPO stocks no doubt contributed; see Blass (1996) for a study of the performance of provident funds in Israel.

[59]As a final remark, we want to mention that several colleagues have expressed less faith in results based on accounting profitability. To them, we would like to offer the following interpretation of the empirical findings that is based uniquely on post-IPO stock performance. The lower than average performance of the stocks of firms with a bank underwriter-lender

5 Implications for Financial Markets Regulation

The overall lesson we draw is that the combination of bank lending and bank underwriting is not harmful (and is probably beneficial), as was found in several studies of US debt floatations, but the combination of bank lending, underwriting, *and* investment fund management is more likely to result in conflict of interest. The implication for bank regulators in the United States is that, indeed, the removal of limitations on underwriting activities by commercial banks has merit but, in light of the consolidation in the financial services industry, measures may have to be taken to ensure that conglomerates such as Citigroup (where Citibank, Travelers Life&Annuity, and Barney Smith Salomon operate under one roof) will not stuff shares they have underwritten into the portfolios of unknowing customers. The evidence we have presented on the latter issue is based on a small sample, but the results are sufficiently striking, in our view, to justify close monitoring by US regulators of activities involving the combination of lending, underwriting, and fund management.

Continental Europe (where banks control life insurance companies) is experiencing a similar financial industry consolidation wave that is expected to acquire further momentum following European Monetary Unification. In parallel, stock market financing is becoming increasingly prevalent. The European Commission regulatory bodies should, in our view, formulate a regulatory policy regarding the purchase of IPO stocks by bank managed insurance and investment funds.[60]

---

constitutes direct evidence of conflict of interest in universal banking, with the interpretation that bank lender-underwriters systematically misreport information regarding their client firms, fooling the market. The even worse stock performance of firms where a fund managed by the same bank bought the IPO stocks is indication that affiliated funds are particularly eager to buy the lemons sold by bank-underwriters, suggesting that the combination of lending, underwriting, and fund management exacerbates the already existing conflict of interest in the combination of lending and underwriting. The central difference between this story and the one we regard as most plausible is that, in our view, the combination of lending and underwriting has potential benefits that must be weighed against the potential for conflict of interest.

[60]The current regulatory approach in Israel stresses "firewalls" between commercial banks and their securities affiliates, and their enforcement is much stricter than during our sample period. Time, and more research, will tell whether these measures are effective.

References

Ang, J. and T. Richardson, 1994, The underwriting experience of commercial bank affiliates prior to the Glass-Steagall Act, Journal of Banking and Finance 18, 351–395.

Ben-Bassat, A., 1993, Capital market reform in Israel, Bank of Israel Economic Review 65, 17–33.

Berger, A., R. Demsetz and P. Strahan, 1999, The consolidation of the financial services industry: Causes, consequences, and implications for the future, Journal of Banking and Finance 23, 135–194.

Blass, A. Y. Yafeh and O. Yosha, 1998, Corporate governance in an emerging market: The case of Israel, Journal of Applied Corporate Finance 10, 79–89.

Blass, A., 1996, Market structure and performance of provident funds, Research Department Discussion Paper No. 96.01, Bank of Israel (Hebrew).

Brav A. and P. Gompers, 1997, Myth or reality? The long-run underperformance of initial public offerings: Evidence from venture and nonventure capital-backed companies, Journal of Finance 52, 1791–1821.

Bufman, G. and L. Leiderman, 1995, Financial reform in Israel: A case for gradualism, in R. Dornbusch and Y. Park, eds., Financial opening: Policy lessons for Korea (Korea Institute of Finance, Seul).

Degeorge F. and R. Zeckhauser, 1993, The reverse LBO decision and firm performance: Theory and evidence, Journal of Finance 48, 1323–1348.

Gande A., M. Puri, A. Saunders, and I. Walter, 1997, Bank underwriting of debt securities: Modern evidence, Review of Financial Studies 10, 1175–1202.

Gompers, P. and J. Lerner, 1997, Conflict of interest in the issuance of public securities: Evidence from venture capital, Journal of Law and Economics 42, 1–28.

Gorton, G. and F. Schmid, 1994, Universal banking and the performance of German firms, mimeo., University of Pennsylvania.

Hamao, Y. and T. Hoshi, 1998, Banks' underwriting of corporate bonds: Evidence from Japan after 1994, mimeo., UCSD.

Hamao, Y., F. Packer, and J. Ritter, 1998, Institutional affiliation and the role of venture capital: Evidence from initial public offerings in Japan, Fedral Reserve Bank of New York, Research Paper #9807.

Hölmstrom, B. and J. Tirole, 1993, Market liquidity and performance monitoring, Journal of Political Economy 104, 678–709.

Jain, B. and O. Kini, 1994, The post-issue operating performance of IPO firms, Journal of Finance 94, 1699–1726.

22

Jensen, M., 1986, Agency costs of free cash flows, corporate finance and takeovers, American Economic Review 76, 323–29.

Kroszner, R. and R. Rajan, 1994, Is the Glass-Steagall Act justified? A study of the US experience with universal banking before 1933, American Economic Review 84, 810–832.

Kroszner, R. and R. Rajan, 1997, Organization structure and credibility: Evidence from commercial bank securities activities before the Glass-Steagall Act, Journal of Monetary Economics 39, 475–516.

Michaely, R. and K. Womack, 1999, Conflict of interest and the credibility of underwriter analyst recommendations, Review of Financial Studies 12, 653–686.

Mikkelson, W., M. Partch, and K. Shah, 1997, Ownership and operating performance of companies that go public, Journal of Financial Economics 44, 279–307.

Pagano, M., F. Panetta, and L. Zingales, 1998, Why do companies go public? An empirical analysis, Journal of Finance 53, 27–64.

Puri, M., 1994, The long term default performance of bank underwritten security issues, Journal of Banking and Finance 18, 397–418.

Puri, M., 1996, Commercial banks in investment banking: Conflict of interest or certification role? Journal of Financial Economics 40, 373–401.

Puri, M., 1999, Commercial banks as underwriters: Implications for the going public process, Journal of Financial Economics 54, 133–163.

Ritter, J., 1991, The long-run performance of initial public offerings, Journal of Finance 46, 3–28.

Roe, M., 1994, Strong managers weak owners: The political roots of American corporate finance (Princeton University Press, Princeton, New Jersey).

Shleifer, A. and R. Vishny, 1986, Large shareholders and corporate control, Journal of Political Economy 94, 461–488.

Shleifer, A. and R. Vishny, 1997, A survey of corporate governance, Journal of Finance 52, 737–783.

Yafeh, Y. and O. Yosha, 1998, Financial markets reform, patterns of corporate finance, and the continued dominance of large banks: Israel 1985–1995, Economic Systems 22, 175–199.

Yosha, O., 1995, Privatizing multi-product banks, Economic Journal 105, 1435–1453.

Table 1: Sample Statistics, 1991-1995

Panel A displays statistics for the entire sample. Panel B displays statistics for the sub-sample of firms where a bank served as a leading underwriter and the firm was a large borrower from the same bank in the IPO year, where leading underwriters are identified in the IPO prospectus, and "large borrower" is defined by the Supervisor of Banks. Panel C displays statistics for firms whose underwriter was not a lending bank. PROF is the ratio of net profits to sales (in percent), SIZE is firm assets (in million 1994 NIS), AGE is the number of years since incorporation, LEVERAGE is total debt divided by liabilities, HRFCRED is a Herfindahl index of concentration of the firm's bank debt, LGOWN is the total share of the firm's equity held by large shareholders (in percent), where a large shareholder is defined as holding at least 5 percent of the firm's equity or a managerial position in the firm, and N is the number of observations (firm-years).

Panel A. The Full Sample

	MEAN	S.D.	MEDIAN	N
PROF	6.9	14.5	6.9	612
SIZE	63.7	97.8	36.2	610
AGE	20.1	14.8	17.0	609
LEVERAGE	0.44	0.22	0.40	610
HRFCRED	0.76	0.27	1	323
LGOWN	85.6	12.2	86.0	597

Panel B. Firms with a Bank Underwriter that is also a Major Lender

	MEAN	S.D.	MEDIAN	N
PROF	6.9	8.5	6.9	202
SIZE	91.2	112.6	52.1	202
AGE	25.3	15.5	27.0	202
LEVERAGE	0.48	0.19	0.47	202
HRFCRED	0.71	0.28	0.69	172
LGOWN	86.5	10.9	87.0	196

Panel C. The Other Firms in the Sample

	MEAN	S.D.	MEDIAN	N
PROF	6.9	16.8	6.9	410
SIZE	50.1	86.3	30.4	408
AGE	17.6	13.7	13.0	407
LEVERAGE	0.42	0.24	0.37	408
HRFCRED	0.81	0.26	1	151
LGOWN	85.0	12.8	85.3	401

Table 2: Post-IPO Accounting Profitability

The dependent variables are, respectively, PROF, the ratio of net profits to sales, OPERAT, operating profits to sales, ROA, return on assets, and ROE, return on equity (all in percent). The regressions are OLS using pooled data, except when denoted by "fixed effects," where firm-specific effects are allowed. The sample includes only "large borrowers," except when denoted by "full sample." Heteroskedasticity-consistent standard errors are reported in parentheses. The Inverse Mill's Ratio is derived from a probit procedure which identifies the attributes of "large borrowers" included in the sample, SIZE is firm assets (in million 1994 NIS), AGE is the number of years since incorporation, LEVERAGE is total debt divided by liabilities, HRFCRED is a Herfindahl index of concentration of the firm's bank debt, LGOWN is the total share of the firm's equity held by large shareholders (in percent), where a large shareholder is defined as holding at least 5 percent of the firm's equity or a managerial position in the firm, and ISSUE is a dummy variable which takes the value zero in all firm-years prior to the IPO and the value one thereafter. * denotes a coefficient significant at the 5 percent level and ** denotes a coefficient significant at the 10 percent level.

	PROF	PROF (fixed effects)	OPERAT	ROA	ROE	PROF (full sample)
Constant	YES	YES	YES	YES	YES	YES
Industry Dummies	YES	YES	YES	YES	YES	YES
Year Dummies	YES	YES	YES	YES	YES	YES
Inverse Mill's Ratio	-36.8	-7.5	-42.1	-18.1	-97.4	
	(44.6)	(39.4)	(54.4)	(59.9)	(126.0)	
SIZE	0.005	0.030*	0.005	0.002	0.004	0.002
	(0.004)	(0.014)	(0.005)	(0.005)	(0.009)	(0.004)
AGE	0.09	0.03	0.12	-0.01	0..18	-0.03
	(0.22)	(0.20)	(0.28)	(0.31)	(0.64)	(0.03)
LEVERAGE	-22.2*	-17.4*	-19.0*	-19.6*	-16.8**	-28.4*
	(2.5)	(4.3)	(4.5)	(3.4)	(9.3)	(2.9)
HRFCRED	-0.1	-2.08	-0.1	2.8	0.5	
	(1.7)	(2.09)	(2.0)	(1.9)	(4.5)	
LGOWN	0.13*	-0.02	0.11*	0.06	0.18*	0.21*
	(0.04)	(0.04)	(0.05)	(0.05)	(0.08)	(0.07)
ISSUE	-4.9*	-5.2*	-5.4*	-9.7*	-16.5*	-3.3**
	(1.5)	(1.5)	(1.6)	(2.5)	(4.0)	(1.7)
Adjusted R-squared	0.41	0.38	0.27	0.39	0.36	0.29
N	315	314	310	316	304	593

Table 3: Post-IPO Accounting Profitability and Universal Banking

Panel A examines the effect of combined bank underwriting and lending activities on client firm performance. Panel B examines the effect of combined bank lending and fund management activities on firm performance. The dependent variable is PROF, the ratio of net profits to sales (in percent). All the regressions are OLS using pooled data (qualitatively similar results using other measures of profitability, or allowing for firm-specific effects are not shown). The sample includes only "large borrowers," except when denoted by "full sample." Heteroskedasticity-consistent standard errors are reported in parentheses. The variables that measure the effect of universal banking on firm performance are defined as follows: The bank underwriter and lender dummy takes the value one if a bank served as a leading underwriter and the firm was large borrower from the same bank in the IPO year, where leading underwriters are identified in the IPO prospectus, and "large borrower" is defined by the Supervisor of Banks. REPAY is the fraction of the IPO proceeds designated in the prospectus for the repayment of bank debt, FUNDLEND is a dummy variable which takes the value one if a bank-managed investment fund purchased at least 5 percent of the firm's equity in the IPO year and the firm was a large borrower from the same bank in the same year. BIGCONF is a dummy variable that takes the value one if FUNDLEND is one, and in addition, the same bank was a leading underwriter of the firm's IPO (i.e. if both the underwriter-lender dummy and FUNLEND equal one). Other variables are as follows: The Inverse Mill's Ratio is derived from a probit procedure which identifies the attributes of "large borrowers" included in the sample, SIZE is firm assets (in million 1994 NIS), AGE is the number of years since incorporation, LEVERAGE is total debt divided by liabilities, HRFCRED is a Herfindahl index of concentration of the firm's bank debt, LGOWN is the total share of the firm's equity held by large shareholders (in percent), where a large shareholder is defined as holding at least 5 percent of the firm's equity or a managerial position in the firm, and ISSUE is a dummy variable which takes the value zero in all firm-years prior to the IPO and the value one thereafter. * denotes a coefficient significant at the 5 percent level and ** denotes a coefficient significant at the 10 percent level.

Panel A. Combined Bank Lending and Underwriting

	PROF	PROF (full sample)	PROF	PROF (full sample)	PROF	PROF
Constant	YES	YES	YES	YES	YES	YES
Industry Dummies	YES	YES	YES	YES	YES	YES
Year Dummies	YES	YES	YES	YES	YES	YES
Inverse Mill's Ratio	-31.2 (44.8)		-26.4 (44.4)		-33.7 (45.7)	-27.8 (44.9)
Bank Underwriter and Lender Dummy	1.0 (0.9)	0.2 (0.8)				
Bank Underwriter and Lender Dummy*ISSUE			2.5* (1.0)	1.5** (0.9)		
Bank Underwriter and Lender Dummy*REPAY					0.6 (1.6)	
Bank Underwriter and Lender Dummy*REPAY*ISSUE						2.2 (1.6)
SIZE	0.004 (0.004)	0.002 (0.004)	0.003 (0.004)	0.001 (0.004)	0.004 (0.004)	0.003 (0.004)
AGE	0.06 (0.22)	-0.03 (0.03)	0.02 (0.22)	-0.03 (0.03)	0.08 (0.23)	0.05 (0.23)
LEVERAGE	-22.3* (2.5)	-28.4* (2.9)	-22.2* (2.5)	-28.8* (2.9)	-22.2* (2.5)	-22.2* (2.5)
HRFCRED	0.08 (1.7)		0.32 (1.7)		-0.08 (1.7)	-0.03 (1.7)
LGOWN	0.12* (0.04)	0.21* (0.07)	0.12* (0.04)	0.21* (0.07)	0.13* (0.04)	0.12* (0.04)
ISSUE	-5.1* (1.5)	-3.3** (1.7)	-6.5* (1.6)	-3.9* (1.8)	-4.9* (1.5)	-5.2* (1.6)
Adjusted R-squared	0.41	0.29	0.41	0.29	0.40	0.41
N	315	593	315	593	315	315

Panel B. Combined Bank Lending and Fund Management

	PROF	PROF (full sample)	PROF	PROF	PROF (full sample)	PROF
Constant	YES	YES	YES	YES	YES	YES
Industry Dummies	YES	YES	YES	YES	YES	YES
Year Dummies	YES	YES	YES	YES	YES	YES
Inverse Mills Ratio	-43.9		-38.8	-41.2		-41.4
	(45.7)		(45.9)	(45.4)		(45.0)
FUNDLEND	0.8	0.6				
	(1.0)	(1.0)				
FUNDLEND*ISSUE			0.3			
			(1.3)			
BIGCONF				1.1	1.2	
				(1.2)	(1.3)	
BIGCONF*ISSUE						1.7
						(1.4)
SIZE	0.005	0.002	0.005	0.005	0.002	0.005
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
AGE	0.13	-0.03	0.10	0.12	-0.03	0.12
	(0.23)	(0.03)	(0.23)	(0.23)	(0.03)	(0.23)
LEVERAGE	-22.3*	-28.5*	-22.3*	-22.3*	-28.4*	-22.5*
	(2.6)	(3.0)	(2.5)	(2.5)	(3.0)	(2.5)
HRFCRED	-0.3		-0.1	-0.1		-0.1
	(1.7)		(1.7)	(1.7)		(1.7)
LGOWN	0.12*	0.21*	0.12*	0.12*	0.21*	0.12*
	(0.04)	(0.07)	(0.04)	(0.04)	(0.07)	(0.04)
ISSUE	-5.2*	-3.3**	-5.0*	-5.0*	-3.3**	-5.2*
	(1.6)	(1.7)	(1.6)	(1.6)	(1.7)	(1.6)
Adjusted R-squared	0.41	0.29	0.40	0.40	0.29	0.41
N	315	593	315	315	593	315

Table 4: Post-IPO Stock Returns and Universal Banking

The table is divided into three parts: Panel A displays sample statistics for firms that issued straight equity and were included in the analysis, in comparison with firms that issued bundles combining both stocks and other securities for which returns data are not available. Panel B displays mean returns on IPO stocks (dividends and capital gains) on the IPO day, and one year after the IPO. Panel C displays stock returns regressions. One year excess returns are relative to "expected returns" that are calculated using "betas" estimated from weekly returns in the second year after the IPO (qualitatively similar results are obtained when excess returns are calculated relative to average market returns without adjustment for risk). The bank underwriter and lender dummy takes the value one if a bank served as a leading underwriter and the firm was large borrower from the same bank in the IPO year, where "leading underwriters" are identified in the IPO prospectus, and "large borrower" is defined by the Supervisor of Banks. FUNDLEND is a dummy variable which takes the value one if a bank-managed investment fund purchased more than 5 percent of the IPO shares, and the same bank was a major lender to the issuing firm. Finally, BIGCONF is a dummy variable that takes the value one if FUNDLEND is one, and in addition, the same bank was a leading underwriter of the firm's IPO. A positive number in the first day returns column implies IPO underpricing, and a negative number implies IPO overpricing. Other variables are as follows: PROF is the ratio of net profits to sales (in percent), SIZE is firm assets (in million 1994 NIS), AGE is the number of years since incorporation, LEVERAGE is total debt divided by liabilities, HRFCRED is a Herfindahl index of concentration of the firm's bank debt, LGOWN is the total share of the firm's equity held by large shareholders (in percent), where a large shareholder is defined as holding at least 5 percent of the firm's equity or a managerial position in the firm, and N is the number of observations (firm-years).

Panel A. Who is Included in the in the Stock Returns Sample?

	Straight Equity IPOs (82 Issues)			Bundle-IPOs (46 issues)		
	MEAN	S.D.	N	MEAN	S.D.	N
PROF	7.2	15.1	394	6.3	13.6	218
SIZE	63.3	102.8	394	64.3	88.0	216
AGE	18.9	14.3	391	22.4	15.5	218
LEVERAGE	0.43	0.23	394	0.46	0.22	216
HRFCRED	0.78	0.27	201	0.74	0.28	122
LGOWN	85.6	11.3	388	85.6	13.8	209

(Continued on the next page)

Panel B. Mean Stock Returns

* denotes a variable that is statistically different from zero at the 5 percent level, and ** denotes a variable that is different from zero at the 10 percent level. # denotes a difference in means relative to the comparison group that is significant at the 1 percent level.

		FIRST DAY RETURNS	ONE YEAR EXCESS RETURNS
(1)	ALL IPOs (N=82)	0.006	-4.9
(2)	BANK UNDERWRITER AND LENDER DUMMY=1 (N=26)	-3.3#	-18.4*#
(3)	BANK UNDERWRITER AND LENDER DUMMY=0 (N=56)	1.5	1.3
(4)	BANK UNDERWRITER AND LENDER DUMMY=1 and FUNDLEND=1 (N=7)[+]	-10.7*#	-32.3*#
(5)	BANK UNDERWRITER AND LENDER DUMMY=1 and FUNDLEND=0 (N=19)	-0.5	-13.3
(6)	FUNDLEND=1 (N=11)	-4.5	-18.0**
(7)	of which: BANK UNDERWRITER AND LENDER DUMMY=0 (N=4)[♣]	+6.2#	+7.1#

(Continued on the next page)

[+] For firms in this category BIGCONF=1.
[♣] The comparison group for firms in this row is row (4).

Panel C. Post-IPO Excess Returns Regressions

SIZE and LGOWN are the 1991-1995 average of the variables defined above. All the regressions are OLS using pooled data with heteroskedasticity-consistent standard errors reported in parentheses. * denotes a coefficient that is statistically different from zero at the 5 percent level, and ** denotes a variable that is different from zero at the 10 percent level.

	ONE YEAR EXCESS RETURNS	ONE YEAR EXCESS RETURNS	ONE YEAR EXCESS RETURNS
Constant	YES	YES	YES
Industry Dummies	YES	YES	YES
Year of Issue Dummies	YES	YES	YES
Size (average 1991-1995)	0.004	-0.049**	-0.045**
	(0.033)	(0.026)	(0.027)
LGOWN (average 1991-1995)	-0.08	0.13	0.29
	(1.07)	(0.95)	(1.00)
Bank Underwriter and Lender Dummy	-28.4*		
	(11.4)		
BIGCONF		-51.2*	
		(16.0)	
FUNDLEND			-27.9**
			(15.9)
Adjusted R-squared	0.04	0.05	0.00
N	82	82	82