

Conflict of Interest in Commercial Bank Security Underwritings: United Kingdom Evidence

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The recent repeal of the Glass-Steagall Act in the United States has cleared the way for commercial banks to enter the securities underwriting business. Many of the concerns that resulted in the original passage of the Glass-Steagall Act, however, still exist. One of these is the possible conflict of interest a universal bank faces. This paper provides evidence on this issue from the experience of the United Kingdom following its removal of restrictions on commercial bank ownership of investment banks more than a decade before the United States. We find that ex ante yields of commercial bank underwritten corporate bonds generally do not differ from that of investment bank underwritten issues. The longer time period available from the U.K. experience also provides a unique opportunity for additional ex post tests not previously available in U.S. tests of the conflict of interest hypothesis. These ex post tests suggest no significant longer-term differences in ex post performance of the two samples. We thus find no evidence that would support the conflict of interest argument.

Introduction

The distinction between commercial and investment banks has blurred considerably. In fact, the U. S. Congress voted in November 1999 to repeal the depression-era Glass-Steagall Act that separated commercial and investment banks. Many of the concerns, however, regarding the combination of these two activities still linger. One of the main concerns is the possible conflict of interest a bank faces when it is allowed to both lend to and underwrite for a company. That is, a commercial bank may exploit its dual role as lender and underwriter to force a company to issue public securities and use the proceeds to repay the bank loan. In essence, the bank may shift the risk of a bad loan from itself to the market.

Studies of the U. S. experience with universal banking detect little evidence of a conflict of interest.¹ The majority of these empirical studies, however, suffer from a lack of current data, generally using pre-1933 data prior to passage of the Glass-Steagall Act. For example, Kroszner and Rajan (1994), Ang and Richardson (1994), and Puri (1994) all examine the ex post performance of bonds underwritten by commercial and investment banks and find that commercial bank underwritten bonds perform no worse (and in some cases perform better) than investment bank underwritten bonds. Ang and Richardson (1994) and Puri (1996) compare the initial yields of bonds and find results consistent with the ex post performance of these issues.

More recent studies use data after the Federal Reserve permitted commercial banks to perform limited investment banking activities through Section 20 subsidiaries and find results that are generally consistent with the pre-Glass-Steagall era evidence. For example, Gande, Puri, Saunders, and Walter (1997) find that securities underwritten by bank affiliated underwriters where the parent bank has a loan outstanding with the firm yielded 27 basis points less than comparable investment bank underwritten securities. Hebb (2002) also finds that firms that have a commercial bank affiliate underwriter in which the parent bank has had a previous relationship experience significantly less IPO underpricing. As commercial banks did not become active in underwriting corporate securities until the mid- to late-1990s, none of the recent studies use modern data to examine the longer run ex post performance of commercial bank underwritten securities.

While current studies detect little evidence of a conflict of interest, their relevance to the post Glass-Steagall Act repeal may be limited. Entry by U.S. commercial banks into investment banking accelerated substantially following the repeal of Glass-Steagall. For example, at the end of 1999, only 55 bank holding companies had received permission to establish Section 20 subsidiaries.² Yet according to the *American Banker*, by March 2000 over 100 banking organizations had applied to be classified as financial holding companies, the device by which these organizations may engage in securities underwritings and other activities permitted by the 1999 Financial Modernization Act.³

We provide insight into the potential effects of the coalescing of commercial and investment banking from recent U.K. experience. The U.K. provides a unique

¹ The term *universal banking* can have different meanings. For example, it is often used to refer to the ability of commercial banks to own equity in nonfinancial firms (or nonfinancial firms to own equity in commercial banks). For the purpose of this paper, however, we use the term to express the ability of commercial banks to engage in security underwritings either directly or through a holding company subsidiary.

² Federal Reserve Bank of New York.

³ It should be noted that some banks may wish to convert to a financial holding company for reasons other than to underwrite securities. The authors would like to thank an anonymous referee for making this point.

experiment with relevance to the U.S. because it established, in 1986, a legal structure for bank entry into investment banking that was similar to the one later adopted by the U.S. with the Gramm-Leach-Bliley Act of 1999. This structure for commercial bank expansion into investment banking differs greatly from that of continental Europe.

Using a large sample of newly issued, publicly placed, U.K. corporate bonds brought to market over the 1986-1997 period, we find that *ex ante* yields of commercial bank underwritten corporate bonds generally do not differ from those of investment bank underwritten issues. While there is some evidence that *ex ante* yields were higher for commercial bank issues immediately after their entry into bond underwriting, this difference disappeared later in the sample period. In addition, the *ex post* returns on commercial bank underwritten issues did not differ from the *ex post* returns for investment bank issues.

U.K. Banking Structure

The banking system of the United Kingdom is both concentrated and diverse. The domestic banking system is concentrated in the sense that a few banks dominate the banking structure, with levels of concentration indexes substantially higher than in the United States. The U.K. banking system is diverse in the sense that it is not only a national system, but also a major international center. The majority of Eurocurrency and bond market operations are hosted in the U.K. As of December 2000, there were 409 banks that were authorized to operate in the U.K. Of these, 188 were banks incorporated in the U.K., 97 were European-authorized institutions, and 124 were branches of banks from the rest of the world.⁴ As a result of the importance of international banking in the U.K., Llewellyn (1992) reports that over 50 percent of the assets of banks in the U.K. were denominated in foreign currencies.⁵

The U.K. banking structure differs considerably from the universal banking model practiced on the continent of Europe (best typified by Germany). In that model, the universal bank is permitted to engage in a host of financial and nonfinancial functions within one corporate entity and is allowed to take significant equity positions in nonfinancial companies (Bisigano, 1992). The U.K. banking structure, after the deregulation of 1986, has been much closer to the banking structures of Canada, Australia, and (since repeal of Glass-Steagall) the United States (Llewellyn, 1992). In this system, banking organizations can engage in limited nonbank financial functions, such as investment banking and insurance, but must do so through separate legal subsidiaries. Moreover, they are prohibited from taking significant equity positions in nonfinancial companies. As such, the British deregulation of 1986 pro-

⁴ British Banking Association Website: <http://www.bba.org.uk/html/1684.html>.

⁵ Barth, Nolle, and Rice (1997) provide a detailed review of the specific regulations governing commercial bank participation in securities and insurance activities.

vides a fertile ground to examine the implications of this experience that may have relevance for the United States.

Similar to the United States, the U.K. financial system has traditionally been divided into separate groups: retail banking, wholesale banking, and other deposit-taking institutions. While these groups have had distinctive roles, this distinction is diminishing. Retail banks in the U.K. have a large and extensive branching system. These banks focus on taking deposits and making loans to/from individuals and small businesses. These banks rely on large volume to compensate for the low margin of the business. At the end of 1993, while the Bank of England classified 22 banks as retail banks, the largest and most well-known are the four London clearing banks - Barclays, Lloyds, HSBC, and National Westminster. Wholesale banks (also known as merchant banks) focus more on the high-value, low-volume banking business. This consists of activities such as underwriting and mergers and acquisitions. While retail banks now operate in the wholesale banking market, the reverse is not usually true.

The group of other deposit-taking institutions is dominated by building societies. Building societies are similar to American savings and loans. They predominately make loans to individuals to purchase homes. The services these building societies offer, however, have been expanding with the passage of Building Societies Act of 1986. Some societies (Trustee Savings Bank and Abbey National) have been transformed from mutual status to P.L.C. (public limited company). This transformation, combined with changes in management strategy, has resulted in these institutions now being considered retail banks.

While American financial institutions only recently went through (and continue to go through) a major transformation with the passage of the Gramm-Leach-Bliley Act in 1999, the traditional roles of financial institutions in the U.K. changed dramatically in 1986. Prior to this, the system was based on specialists and differentiated financial institutions. Similar to the U.S., there was a clear distinction between commercial banking, investment banking, housing finance, and insurance. Unlike their North American counterparts, however, British banks were never explicitly restricted from engaging in more than one activity. Specialization was a result of restrictive practices and self-imposed constraints. In fact, prior to 1979 there were virtually no specific laws regulating the U.K. financial system. The Bank of England encouraged this specialization through the use of moral suasion.

There were two events in 1986 that had a major impact of the British financial services industry: the Big Bang and the Financial Services Act of 1986.⁶ Prior to the Big Bang, banks were effectively kept out of the securities industry by the London Stock Exchange's own rule book. This book stated that member firms could only be

⁶ Llewellyn (1996) refers to these as the most far reaching change in the British financial structure. Also, see Hall (1989).

partnerships. While the rules were changed in 1969 to allow member firms to be limited companies, there was still a rule restricting individual ownership to no more than 10 percent (increased to 29.9 percent in 1982) of the member firm. This prevented banks from being sole owners of securities firms. The situation changed dramatically when the government threatened to refer the LSE rulebook to the Restrictive Trade Practices Court. The result (known as the “Big Bang”) was a change in the rules to allow 100 percent outside ownership of member security firms. This resulted in an inflow of major U.K. and foreign banks into the U.K. securities industry.

The Financial Services Act of 1986 established clear regulations for the investment industry and created both regulatory and self-regulatory agencies to enforce these rules. One important rule that was enacted was that only authorized firms could engage in investment activities. The impact of the Big Bang and the Financial Services Act was quick and dramatic. Prior to the Big Bang, there were more than 200 independent stock exchange member firms. By the end of 1986, more than half of these had become part of a larger financial conglomerate. Hence, the deregulation of the British system in 1986 resulted in a significant increase in corporate securities underwriting by commercial banks.

Hypotheses and Methodology

Hypotheses

Differences in securities underwritten by commercial banks (or their affiliates) may exist due to firm-specific knowledge gathered by these banks during other banking activities. A commercial bank may use this information to underwrite securities of troubled firms in order to reduce exposure to the firm (a practice commonly referred to as risk-shifting.) Alternatively, a bank may provide more information to the market than an investment bank underwriter. Which action occurs may be observed in the difference of both ex ante pricing of the securities and their ex post performance. Hence, two competing hypotheses exist.

- H1: Commercial banks have an incentive to underwrite securities for troubled firms with existing loans and use the proceeds to repay the bank. The market is rational and therefore will require a higher rate of return on commercial bank-underwritten securities in order to compensate for this potential risk. The true quality of these securities will become evident over time and thus ex post performance of commercial bank underwritten bonds should be worse than investment bank underwritten bonds. This is the conflict of interest hypothesis.
- H2: On the other hand, commercial banks already have significant amounts of information about firms from their previous deal-

ings.⁷ This is costly information that an investment bank does not have prior to underwriting. Investment banks may forego incurring the cost of collecting this information. The market, therefore, will perceive investment bank underwritten securities as more risky and require a higher rate of return on these securities. The higher quality of the commercial bank underwritten bonds will be evident in superior ex post performance. This is the certification of value hypothesis.

Methodology

We initially explore the validity of these two hypotheses by examining the pricing of new bond issues. If the conflict of interest hypothesis (HI) is valid, we would expect that commercial bank underwritten debt issues would, *ceteris paribus*, have higher ex ante yields than investment bank underwritten issues. We also test the ex post performance of the bonds. If commercial banks do underwrite lemon securities, this should be evident in the long-term performance of these securities.

Ex Ante Bond Pricing

Similar to Puri (1996), after controlling for factors that should affect the initial yield of a security, we compare the initial spread of commercial bank affiliate underwritten bonds with investment bank underwritten bonds. Initial spread is defined as the difference in the ex ante yield to maturity of the bond at issuance and the yield to maturity of a benchmark government bond of equal maturity on the day of issuance.

- The pricing of bonds is assumed to be determined by issue characteristics, issuer characteristics, market conditions, and underwriter characteristics. Specifically, the following factors are assumed to affect initial bond yields:
 - Issue size—The natural log of the size (in millions) of the issue.
 - Duration—The duration of the bond at issuance.
 - Quality spread—The average spread between long-term domestic corporate and government bonds in the month the bond is issued. This helps control for economic conditions at the time of issuance.
 - Call features—A dummy variable that takes the value of 1 if the bond is callable.
 - Guaranteed bond—A dummy variable that takes the value of 1 if the bond is guaranteed (typically by a parent of the issuing firm).

⁷ Puri (1999) observes that commercial banks as lenders may be better certifiers of value than investment banks.

- New issue bond—A dummy variable that takes the value of 1 if the bond is the first bond issue for the firm.⁸
- Credit rating of bond—A set of four dummies is used to measure the credit rating of the bond: AA (consisting of AA (high), AA, AA (low)), A (consisting of A (high), A, A (low)), BBB (consisting of BBB (high), BBB, BBB (low)), BB (consisting of BB (high) and lower).⁹
- Prestige of underwriter—Based on the four-point scale of Johnson & Miller (1988). Underwriters with an average market share over the sample period greater than 20 percent are classified as 3, from 10 percent-20 percent a 2, 5 percent-10 percent a 1, and less than 5 percent a 0.

Ex Post Bond Performance

Previous studies have used the matched-sample method when analyzing bond performance (Ang and Richardson, 1994). This involves matching each bond in one group with a similar bond in the other group. Due to the small sample of bonds with price data available, this approach is not possible in this study.

Long-run bond performance is calculated using an excess buy and hold method. Conrad and Kaul (1993) and Barber and Lyons (1996) suggest that using buy and hold returns rather than cumulative returns reduces positive biases.¹⁰ Using excess returns also controls for performance caused by movements in market rates. Monthly excess bond returns are calculated using bond price movements and coupon payments as well as government bond rates:

$$ER_{i,t} = \frac{P_{i,t} - P_{i,t-1} + \text{Coupon}_{i,t}}{P_{i,t-1}} - R_{G,t} \quad (1)$$

where:

⁸ Due to data limitations, this actually measures whether or not this is the first bond issue for the company since 1983.

⁹ Based on ratings by Moody's and S&P.

¹⁰ Measuring bond performance using price data has two potential problems: (1) bond prices are not available for the entire sample (approximately eighty percent of the sample has bond prices available.) (2) Even when prices are quoted, there is a question of the validity of these prices. The bond prices quoted are the mid-price as of month end. There is no indication if bonds were actually traded at this price. Because most bonds do not trade as frequently as stocks, prices may not be an accurate depiction of bond value. Given these limitations, an additional test of ex post performance was used. For both the commercial bank and investment bank underwritten samples, the percentage of bonds that were downgraded by a rating service (Moody's or S&P) between the time of issue and one, three, and five years after issue was calculated. Logit regressions were also computed to determine the effect the type of underwriter has on the probability of downgrading. The results of these robustness tests were consistent with the reported results.

$ER_{i,t}$ = Excess monthly return on bond i in month t ;
 $P_{i,t}$ = Price of bond i at end of month t ;
 $P_{i,t-1}$ = Price of bond i at beginning of month t ;
 Coupon $_{i,t}$ = Implied interest payment for bond i in month t . Calculated as

$$\frac{(\text{Coupon Rate})(\text{Par Value})}{12} \quad (2)$$

$R_{G,t}$ = Return on a UK gilt in month t .

Excess buy and hold returns are calculated as follows:

$$EBH_{i,1\text{year}} = (1 + ER_{i,1})(1 + ER_{i,2}) \dots (1 + ER_{i,12}) \quad (3)$$

where:

$EBH_{i,1\text{year}}$ = Excess buy and hold return for bond i over 1 year;
 $ER_{i,1}$ = Excess return on bond i in month 1.

Sample

Our sample consists of newly issued, publicly placed, U.K. corporate bonds brought to the market during the 1986-1997 period. As a significant number of British firms tend to issue their debt in the Euromarket, both domestic and pound-denominated bond issues of British firms issued in the Euromarket are included. Only non-convertible bonds are used to avoid the effect of conversion factors on the initial price of the security. The sample of bond issues for the U.K. is obtained from the Security Data Corporation's New Issue database. The sample is divided into commercial and investment bank underwritten issues based on the classification of the lead underwriter. The lead underwriter is classified as a commercial bank if it listed as a retail bank by the Bank of England and as an investment bank if the Bank of England classifies it as either a merchant bank or other bank.¹¹ News announcements of these issues are found on Lexus-Nexus. Bond prices are gathered from Datastream International.

Results

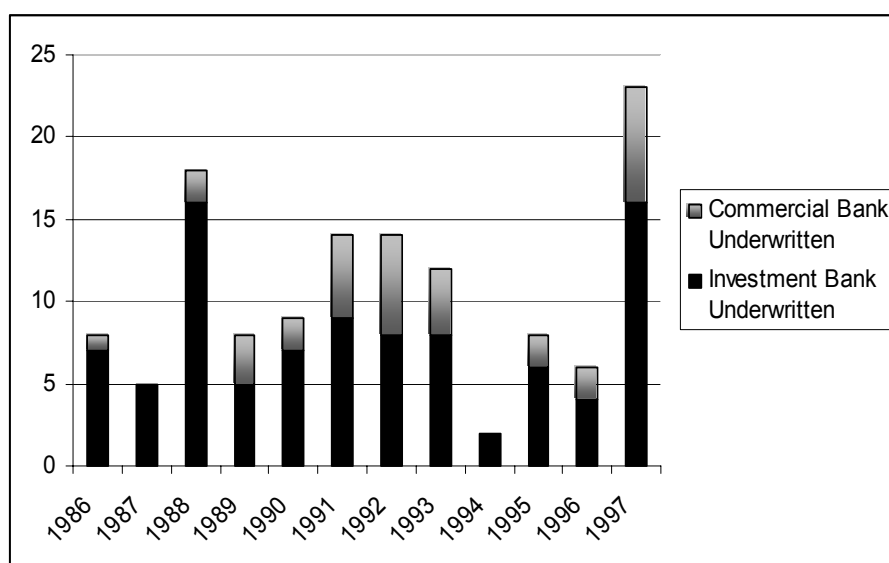
Sample Characteristics

The sample consists of 127 bond issues. Of these, 93 were underwritten by investment banks and 34 by commercial banks. Figure 1 contains the yearly breakdown of the sample. The relative importance of commercial banks as underwriters of non-convertible debt in the United Kingdom appears to be considerably larger than for the Section 20 commercial bank subsidiaries in the United States. Gande, Puri, Saunders, and Walter (1997) found that Section 20 Subsidiaries of commercial banks in the U.S. underwrote only 11.9 percent of the non-convertible

¹¹ Current classifications can be found at <http://www.fsa.gov.uk/pubs/bankact/>.

bonds between 1993 and 1995. Roten and Mullineaux (2002) find this has increased to 23.6 percent over the 1995-1998 period.

Figure 1—Number of Bond Issues by Year and Underwriter Type



Summary statistics for the sample are contained in Table 1. The average size of the issue is similar between the two groups: £ 225 million for the commercial bank underwritten securities and £ 191 million for the investment bank underwritten securities. The difference is not statistically significant. The range in the size of the bond issues is also similar with investment banks having a slightly greater range (£ 855.2 million versus £ 766.6 million). The median size (not reported in the table) for investment bank underwritten bonds is £ 163.2 million while it is £ 168.55 million for commercial bank underwritten bonds. While there has been concern in the United States that commercial banks with underwriting powers may ignore the capital market needs of smaller firms, the U.K. evidence does not support this assertion.

Years to maturity are also similar: 13.7 years for the commercial bank group (with a range of 3 to 25 years) and 13.39 years for the investment bank group (with a range of 3 to 32 years). The ranges for the maturities for the two groups are also similar. It does not appear that either of the underwriter types is focusing on bonds of a particular (i.e., short- or long-term) maturity.

An interesting difference is noted in the initial bond ratings of the two types of underwriters. Only 5.88 percent of the bonds underwritten by commercial banks were of the highest rating (AA). This compares to over 35 percent of the investment bank sample. While the small sample size makes statistical comparisons difficult, it

does appear that higher rated firms were less likely to use a commercial bank as an underwriter, perhaps wishing to avoid the perception of a conflict of interest. Virtually half of all U.K. bond issues did not have a rating at the time of issue. While ratings were not as important to U.K. issuers as North American issuers, their importance is increasing, as newer issues are more likely to be rated than older issues.

Table 1—Summary Statistics of Bond Issues

This table contains summary statistics of the 127 bond issues. Summary statistics are means except where noted with the range below in parentheses. Bond data comes from the Securities Data Corporation new issues database. P-value is based on a two-tailed test of difference of means. Asterisks denote significance levels: * = 10 percent, ** = 5 percent, and *** = 1 percent

	Total Sample	Commercial Bank Underwritten	Investment Bank Underwritten	p-value of Difference
# of issues	127	34	93	NA
Spread over gov't bond	1.005% (-.04% , 3.63%)	1.161% (.38% , 2.75%)	0.948% (-.04% , 3.63%)	.0715*
Size of Issue (£ Million)	200.30 (14.9 , 874.8)	225.11 (14.9 , 781.5)	191.22 (19.6 , 874.8)	.2491
Years to Maturity	13.47 (3 , 32)	13.70 (3 , 25)	13.39 (3 , 32)	.8650
% rated AA	27.56%	5.88%	35.48%	NA
% rated A	18.90%	38.24%	11.83%	
% rated BBB	2.36%	5.88%	1.08%	
% rated BB	2.36%	0%	3.23%	
% unrated	48.82%	50.00%	48.39%	

The initial spread over comparable government securities is significantly higher (1.16 versus 0.95 percent) for the commercial bank group than for the investment bank underwritten securities (significant at the 10 percent level.) The range of the spread is considerably wider for investment bank underwritten bonds compared to commercial bank underwritten bonds, with investment bank underwritten bonds having both smaller as well as larger initial spreads compared to commercial bank underwritten bonds. This suggests that without controlling for other factors that will affect this spread (as discussed in the model section), no strong conclusions can be drawn from these univariate results.

Ex Ante Bond Yields

Table 2 contains the results of regression equations in which the ex ante yield spread for the commercial bank investment bank bond issues are regressed upon an underwriter indicator variable and a number of ceteris paribus variables discussed earlier. The underwriter variable is coded as a 1 for commercial banks and zero for investment banks. Column 1 of Table 2 shows that while the commercial bank lead

Table 2—Initial Pricing and Underwriter Type

This table reports coefficients of regressions of the excess in the initial yield of the bonds over comparable government securities (SPREAD) on several controlling variables and an commercial bank dummy that take a value of 1 if the lead underwriter is classified as a commercial bank, 0 otherwise. The controlling variables include LN(SIZE), the natural log of the amount of the issue (in millions of pounds), DURATION, the duration of the bond at issue, QUALITY SPREAD, the difference in yield between long-term corporate and government bonds at time of issue, GUARANTEED, a dummy variable that takes the value of 1 if the bond is guaranteed, a group of dummy variables based on bond rating, PREVIOUS ISSUE, a dummy variable that takes the value 1 if the issuer has issued bonds before, CALLABLE BOND, a dummy variable that takes the value 1 if the bond is callable, and UNDERWRITER PRESTIGE, a measure of underwriter prestige based on market share. Column (2) is a fixed-effects regression while column (3) contains additional dummy variables to control for the use of funds (1 if the proceeds were used to repay bank debt, 0 otherwise) and previous commercial banking relationship (1 if the issuer had a previous relationship with the commercial bank affiliate of the underwriter, 0 otherwise). Heteroskedasticity-consistent standard errors are given in brackets and asterisks denote significance levels: * = 10 percent, ** = 5 percent, and *** = 1 percent

SPREAD	(1)	(2)	(3)
LN(SIZE)	-0.1898** (.0748)	-0.1462 (.1213)	-0.1788** (.0750)
Duration	0.0534*** (.0182)	0.0714** (.0316)	0.0545*** (.0180)
Quality Spread	0.4427*** (.1066)	0.5293*** (.1305)	0.4262*** (.1104)
Guaranteed	-0.0838 (.1479)	0.6101** (.3033)	-0.0881 (.1549)
AA	-0.3705*** (.0946)	-0.4379* (.2435)	-0.3787*** (.0951)
A	-0.0082 (.1232)	0.1184 (.1663)	-0.0053 (.1311)
BBB	0.5218** (.2160)	0.4272 (.4281)	0.4866** (.2134)
BB	0.8836* (.5175)	-0.5398 (.4996)	0.8907* (.5184)
Previous Issue	0.0157 (.0897)	0.0090 (.1069)	0.0241 (.0905)
Callable	0.6563*** (.2201)	0.0481 (.2767)	0.6701*** (.2149)
Bond Underwriter	0.0303 (.0427)	0.0548 (.0651)	0.0363 (.0431)
Prestige	0.0905 (.0889)	0.1011 (.1355)	0.1229 (.0989)
Commercial Bank			-0.0494 (.1150)
Lead			-0.1866 (.2092)
Repay Bank Debt			1.0479** (.4619)
Previous Bank Relationship			
CONSTANT	1.0980** (.4627)	0.6125 (.6395)	1.0479** (.4619)
R ²	.4969	.1966	0.5016
Number of Observations	127	127	127

underwriter dummy is positive, the variable is not statistically significant. This suggests that the market does not perceive any difference in risk between similar

securities underwritten by commercial or investment banks. The significant variables are the size of the issue, the duration, the quality spread, bond ratings, and callability. As predicted, size is negatively related to the initial spread. As expected, also, duration, quality spread, and callability are all positively related to the initial spread. The pattern of spreads for bonds rated from AA to BB is also theoretically consistent.

As many of the firms in the sample have issued more than one bond, there is a possibility of firm-specific effects that are not captured with the above OLS regression. This potentially can be captured with an error-component model (ECM). ECM's differ from regular OLS models in that they decompose the error into firm-specific error as well as a white-noise error. This firm-specific error can control for unobservable firm effects not captured in the OLS model (Baltagi, 1995). We use a Hausman test to determine if the firm-specific effects are random or fixed. This test strongly suggests the use of the fixed effects model ($p = .0006$). The fixed-effects results are shown in column 2. For the most part, the results are unchanged, with the commercial lead dummy remaining insignificantly positive. For simplicity, the rest of the analysis will ignore the firm-specific effects.

According to our hypothesis, a conflict of interest can exist when a firm with a loan outstanding issues a security underwritten by the bank and uses the proceeds to repay the loan. The regressions in columns (1) and (2) do not distinguish between firms in this situation and those that simply use a commercial bank underwriter. We attempt to control for this in two ways. First, we searched the SDC database and all news announcements of the issues for information on the use of proceeds. In 38 percent (13 of 34) of the issues, one of the stated purposes of the issue was to repay bank and/or short-term debt. In addition, we searched the Loan Pricing Dealscan database for evidence of a previous relationship between the issuer and the commercial bank underwriter. 24 percent (8 of 34) of the issuers had a loan relationship with the commercial bank affiliate of the underwriter prior to the underwriting. Interestingly, none of the firms we found that had disclosed a previous relationship with the underwriter stated that they were planning to use the proceeds to repay a bank loan. It should be noted that while we attempted to search all publicly available sources for this information, it is certainly possible that firms not counted above used the proceeds of the underwriting to repay an affiliated bank loan.

Dummy variables capturing if one of the stated uses of the proceeds was to repay bank debt or if there was a previous banking relationship are included in column (3) of Table 2. Both of these variables are insignificant, indicating that firms issuing with related banks as the underwriter were not penalized and thus provide no evidence of a conflict of interest.

The sample was further subdivided into rated and unrated categories in order to provide additional insight into the potential conflict of interest. Table 3 reports these results. Given the additional uncertainty with unrated bonds, it may be expected that the perception of a conflict of interest would be greater with this subset. Gande et al.

Table 3—Initial Pricing and Underwriter Type Based on Year of Issue and Bond Rating

This table reports coefficients of regressions of the excess in the initial yield of the bonds over comparable government securities (SPREAD) on several controlling variables and an commercial bank dummy that take a value of 1 if the lead underwriter is classified as a commercial bank, 0 otherwise. The controlling variables include LN(SIZE), the natural log of the amount of the issue (in millions of pounds), DURATION, the duration of the bond at issue, QUALITY SPREAD, the difference in yield between long-term corporate and government bonds at time of issue, GUARANTEED, a dummy variable that takes the value of 1 if the bond is guaranteed, a group of dummy variables based on bond rating, PREVIOUS ISSUE, a dummy variable that takes the value 1 if the issuer has issued bonds before, CALLABLE BOND, a dummy variable that takes the value 1 if the bond is callable, and UNDERWRITER PRESTIGE, a measure of underwriter prestige based on market share. Column's (1) and (2) run the previous regressions on rated and unrated bonds respectively. Column's (3) and (4) run the analysis on the first (1986-1991) and second (1992-1997) time period. Heteroskedasticity-consistent standard errors are given in brackets and asterisks denote significance levels: * = 10 percent, ** = 5 percent, and *** = 1 percent

SPREAD	(1)	(2)	(3)	(4)
	Rated Bonds	Unrated Bonds	1986-1991	1992-1997
LN(Size)	-0.2095** (.0893)	-0.2253** (.1124)	-0.3324** (.1294)	-0.0125 (.0535)
Duration	0.1085*** (.0239)	-0.0080 (.0312)	0.0823 (.0493)	0.0371 (.0259)
Quality Spread	0.5797*** (.1212)	0.3639** (.1408)	0.4608*** (.1555)	0.3504** (.1437)
Guaranteed	0.0556 (.1741)	-0.5720*** (.1253)	0.2182 (.3867)	-0.2610** (.1225)
AA	-1.0533*** (.3294)		-0.4466* (.2416)	-0.2849** (.1108)
A	-0.6079* (.3362)		0.2200 (.2586)	-0.1591 (.1724)
BBB				0.3963 (.2456)
BB	0.1787 (.5439)		0.1428 (.1950)	1.1048** (.5178)
Previous Issue	0.1404 (.1036)	-0.0447 (.1286)	0.0538 (.1141)	-0.1031 (.1407)
Callable Bond	1.1392 (.7410)	0.5799*** (.0957)	0.4029*** (.1482)	1.2095** (.4944)
Prestige of Underwriter	0.0036 (.0454)	0.0832 (.0704)	0.0967** (.0478)	-0.1025* (.0552)
Commercial Bank	-0.0608 (.1110)	0.1829 (.1205)	0.2388* (.1260)	0.0408 (.0932)
CONSTANT	1.364** (.6374)	1.7799** (.7298)	1.506* (.8617)	0.6485 (.5102)
R ²	.6317	.3765	.6263	.6217
Number of Observations	65	62	62	65

(1997) find differences in the pricing of lower-rated U.S. firm securities depending on underwriter type. Columns 1 and 2 contain the results of the regressions on all rated and non-rated bonds in the sample. The model for rated bonds explains greater variability in prices than that for non-rated bonds as evidenced by the higher r-squared value. For both the rated and unrated bonds, however, the commercial lead dummy variable is insignificant.

Table 4—Analysis of the Time Effect on the Pricing of Bonds

This table reports coefficients of regressions of the excess in the initial yield of the bonds over comparable government securities (SPREAD) on several controlling variables and an commercial bank dummy that take a value of 1 if the lead underwriter is classified as a commercial bank, 0 otherwise. The controlling variables include LN(SIZE), the natural log of the amount of the issue (in millions of pounds), DURATION, the duration of the bond at issue, QUALITY SPREAD, the difference in yield between long-term corporate and government bonds at time of issue, GUARANTEED, a dummy variable that takes the value of 1 if the bond is guaranteed, a group of dummy variables based on bond rating, PREVIOUS ISSUE, a dummy variable that takes the value 1 if the issuer has issued bonds before, CALLABLE BOND, a dummy variable that takes the value 1 if the bond is callable, and UNDERWRITER PRESTIGE, a measure of underwriter prestige based on market share. Column's (1) and (2) run the analysis including a year interaction variable (and ln(year)) to examine the changing effect of investment bank lead underwriter over time. Heteroskedasticity-consistent standard errors are given in brackets and asterisks denote significance levels: * = 10 percent, ** = 5 percent, and *** = 1 percent

SPREAD	(1)	(2)
LN(Size)	-0.1772** (.0748)	-0.1816** (.0778)
Duration	0.0461** (.0207)	0.0499** (.0203)
Quality Spread	0.3909*** (.1012)	0.4220*** (.1098)
Guaranteed	-0.1027 (.1561)	-0.0869 (.1543)
AA	-0.3747*** (.0981)	-0.3734*** (.0974)
A	0.0886 (.1324)	0.0567 (.1347)
BBB	0.6330** (.2755)	0.6006** (.2490)
BB	0.8663* (.4917)	0.8796* (.5062)
Previous Issue	0.0118 (.0895)	0.0192 (.0902)
Callable	0.6833*** (.2274)	0.6753*** (.2266)
Bond	0.0388 (.0423)	0.0354 (.0424)
Prestige of Underwriter	0.0066 (.0170)	
YEAR		
LN(Year)		0.0178 (.0800)
YEAR*Commercial Bank	-0.0753*** (.0246)	
LN(YEAR)*Commercial Bank		-0.3114* (.1623)
Commercial Bank	0.6244*** (.2061)	0.6618** (.3196)
CONSTANT	1.0721** (.4429)	1.0545** (.4645)
R ²	.5240	.5120
Number of Observations	127	127

Columns 3 and 4 of Table 3 show the regression results for the first (1986-1991) and second (1992-1997) time periods of the sample. Commercial bank underwritten bonds had a significantly higher yield (24 basis points, $p = .064$) for the period immediately after the regulatory change. This difference, however, disappeared later, as the market was able to observe the behavior of the commercial banks.¹²

We conduct further tests to clarify the effects of time on the perception of a conflict of interest. The results of these tests are shown in Table 4. Columns 1 and 2 include a year variable and the natural log of the year variable, respectively. This variable equals 1 for the first year of the sample (1986), 2 for the second year (1987), and so on. The interaction of this variable with the commercial bank lead dummy can be thought of as a learning variable measuring how the markets reaction to commercial bank underwritten securities changes from year to year. In both columns, this interaction variable is significantly negative, suggesting that, over time, the higher yield on commercial bank underwritten bonds is eroding. As will be demonstrated, this suggests that the perception of the market regarding commercial banking underwritings changed over time and this change is consistent with the ex post evidence.

Ex Post Bond Returns Buy and Hold Returns

If commercial banks actually underwrite securities from customers that they believe will experience financial difficulties in the future, this should be evident in the post-issuance performance of the securities. We provide evidence on this issue by calculating average excess buy and hold bond performance for the sample following the procedure described in the methodology section of the paper. This measures the additional return an investor would earn by investing in the corporate bonds instead of 30-day government securities. As shown in Table 5, while investment bank bonds outperform commercial bank bonds in year 1 and underperform in years 2 and 3, none of these differences are statistically significant. The range of returns for both sets of bonds is similar in all three years.

The results for the buy and hold excess returns on bonds as shown in Table 5 suggest that there is little difference in bond performance based on the type of underwriter. For example, the mean one year excess return for the 25 commercial bank underwritten issues is 2.179 percent versus 2.351 percent for the 74 investment

¹² The prestige variable changes sign in the two periods. Given the intuitive relationship between classification of underwriter and prestige, it is important to understand the two variables. One possible reason for the switch in sign on the prestige variable is that Barclays (a commercial bank) has a high prestige score. If during the initial period, the market penalized commercial banks, Barclays may be driving the prestige variable. In the second period, after the market stopped penalizing commercial banks, the prestige variable becomes negative (as would be expected ex ante). The authors would like to thank the anonymous referee for this suggestion.

Table 5—Buy and Hold Excess Returns on Bonds

This table shows the Buy & Hold Excess Return (BHER) and the range of BHER (in parentheses) for bonds underwritten by both commercial and investment banks for a 1, 2, and 3 year period. The BHER is calculated using monthly excess returns, over a 30-day government security. Prices for the bonds are from Datastream. The T-test of difference in means is based on a two-tailed test. Asterisks denote significance levels: * = 10 percent, ** = 5 percent, and *** = 1 percent

	Commercial Bank Underwritten		Investment Bank Underwritten		T-Test of Difference of Means
	N	Mean	N	Mean	
BHER Year 1	25	2.179% (-16.93% , 11.94%)	74	2.351% (-16.76%, 33.21%)	-0.0798
BHER Year 2	25	7.664% (-13.31%, 31.78%)	74	4.163% (-20.77%, 37.74%)	1.1041
BHER Year 3	25	12.046% (-13.81%, 50.58%)	74	6.634% (-27.54%, 51.10%)	1.5229

bank underwriter issues, and the difference is not statistically significant. Similar comparisons exist for the second year and third year excess returns, and the differences are again not significant.

Conclusion

The U.K. experience formally allowing commercial banks to engage in investment banking after 1986 provides an important data set that may be relevant to understanding the potential effects of deregulation that permits commercial banks to affiliate with investment banks. In reforming its financial structure, the U.K. did not adopt the universal banking model of continental Europe that permitted a wide range of financial activities within one corporate entity. Rather, the U.K. adopted an affiliate model that permitted a wider variety of financial services that generally are done within separate subsidiaries, like that adopted by the U.S.

The U.K. experience with integrating commercial and investment banking is interesting and important because it provides additional evidence on the potential conflict of interest problems associated with merging investment and commercial banks. Evidence on the ex ante yields on corporate bonds confirms prior evidence from the United States as does evidence on the longer term performance of commercial bank underwritten bonds. The longer term ex post bond performance is particularly significant because prior studies in the U.S. have not been able to provide modern evidence on this issue. We show that buy and hold excess returns for as long as three years after the initial issue do not differ between commercial bank and investment bank issues.

Our failure to find any evidence of a conflict of interest using a wide variety of different approaches with both ex ante and ex post data from the U.K. is compelling. This evidence is consistent with prior evidence from the U.S. and thus provides confirmation of the lack of a conflict of interest within a different institutional framework.

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