

Projected Employment Effects of a Repeal of the Glass-Steagall Act

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INTRODUCTION

The repeal of the Glass-Steagall Act has been debated among economists for some time on the basis of potential benefits to economic efficiency vs. potential costs associated with changes in the safety and soundness of commercial banks (see Litan, 1987, especially chapters 3 and 4). With the exception of occasional monetary policy considerations (Goodfriend and King, 1988), the arguments in general have been developed on a microeconomic level. It is, nevertheless, clear that improvements in microeconomic efficiency have macroeconomic implications. Improvements in underwriting efficiency should result in lower borrowing costs which, in turn, should have both industry-specific and aggregate production and employment effects.

The Glass-Steagall Act creates a legal barrier to entry by commercial banks into the general business of underwriting and dealing in corporate securities. As such, it constitutes an impediment to effective competition in the securities business. Underwriting of securities in the United States is highly concentrated (see Hayes, Spence and Marks, 1983, Pugel and White, 1985, New York Federal Reserve Bank, 1986 and U.S. Congress, House Committee on Government Operations, 1987). In 1986 the largest five underwriters of corporate debt accounted for about 69 percent of the business. In fact, the degree of concentration faced by many issuers may be even higher. While there is a national market for large corporations issuing securities, many small and medium-sized issuers without a national reputation cannot deal with the major New York City-based underwriters. These issuers face higher levels of concentration among local broker/dealers (Kaufman, 1984, p. 43 and Pugel and White, 1985, p. 125).¹ The combination of a significant regulatory barrier to entry and high concentration can be predicted to result in above-competitive prices for underwriting services to such firms.

In this paper, we estimate the potential effects on employment following repeal of the general underwriting prohibition of the Glass-Steagall Act.² We find that under certain conditions repeal would lead to a small but not insignificant increase in employment and international competitiveness that ought to be a part of any discussion regarding potential repeal of this act.

In the next section we discuss the mechanisms through which increased employment would occur. Section III presents estimates projecting the extent of these employment changes. These estimates are based in part on an analysis of the relevant literature and in part on a survey we conducted of chief financial officers from over 500 firms active in 1986 and 1987 in raising funds in either U.S. or overseas financial markets. On the basis of responses to our mail questionnaire, we were able to determine, among other things, the proportion of overseas activity that would likely be repatriated if underwriting costs in the United States fell as a result of the repeal of the Glass-Steagall Act. A detailed description of this survey can be found in the appendix to this paper.

EMPLOYMENT EFFECTS MECHANISMS

An intensification of competition leading to relatively more efficient production of underwriting services in the United States would result in lower prices (spreads) for these services and therefore an

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increase in the quantity of them demanded. This increase would emanate from both domestic and foreign issuers who shift their activity from overseas to the United States as relative prices declined as well as from additional activity by firms whose demand for such services has been curtailed by high prices and other manifestations of insufficient competition.

There are several linkages between increases in underwriting and increased employment. First, employment in the underwriting business would directly expand. The growth of employment among banks and securities firms in London after the recent "Big Bang" deregulation provides evidence that such effects can be substantial.³ Second, there would be employment effects in those sectors that provide ancillary services to the underwriting industry; e.g., in businesses that provide printing, legal, accounting, computer and advertising services. Finally, because a reduction in the cost of underwriting services reduces the total cost of capital, there will be an effect on aggregate investment and hence on both output and employment.

In the United States, more generally, the direct change in employment in the United States would depend on: (1) changes in the relative shares of the firms that participate in underwriting, (2) changes in the proportion of total underwriting activity in the U.S. and abroad, and (3) changes in the volume of total activity throughout the world. These direct effects would be magnified by the indirect effects discussed in the previous paragraph.

High concentration such as exists in underwriting in the U.S. is not in and of itself an indication of inadequate competition and higher than competitive prices. If barriers to entry are low, firms may not be able to take advantage of the potential for coordination that results in noncompetitive pricing. Economic barriers, mainly composed of capital requirements, economies of scale and scope, and product differentiation (including reputation and client loyalty) differ for different segments of the industry. For example, the barriers confronting a new entrant into institutional brokerage-distribution do not appear to be high. They do, however, appear high for firms considering entry into origination and underwriting of new issues (Hayes, Spence and Marks, 1983, pp. 46-50).

Given the nature of existing *economic* barriers to entry, it is likely that commercial banks are the "most favored" entrant into the industry, i.e., the potential entrants who could profitably enter underwriting at the lowest "price" above competitive levels. Both established reputation and apparent synergies emerging from closely associated financial activities would seem to make this the case (see U.S. Congress, House Committee on Government Operations, 1987). The Glass-Steagall Act, therefore, constitutes a critical barrier to entry into underwriting.

The extent of competition in an industry may also be measured by its long-run profits. Rates of return for individual services offered by securities firms are not readily available, so the return on equity for prominent investment banks attributable to underwriting cannot be broken out from their overall return, which encompasses other major revenue generating services such as brokerage, advising, arbitrage and trading.⁴ Nevertheless, the overall profit data that are available are consistent with a noncompetitive structure in underwriting. Return on equity for the securities industry as a whole has been considerably higher than for all financial institutions and for the nonfinancial sector since 1977 (Federal Reserve Bank of New York, 1986, p. 335). Large investment banks have been particularly profitable. In 1985 large investment banks reported profits of \$65,497 *per employee*, more than triple the rate for the securities industry as a whole (Securities Industry Association, 1986, p. 13). Their average rate of return for the 1975-84 period was 21.5 percent, about 60 percent higher than the rate of return for multinational bank-holding companies. In 1986, the return on equity after taxes for large investment banks was 18.5 percent, compared to 9.5 percent for money-center banks and 10.2 percent for all insured commercial banks.⁵

Industry-specific risk may be greater for securities firms than for commercial banks, and consequently a higher rate of return on average over a long period of years might be expected. In a world, however, where the yield on Aaa-rated securities is only 10 to 15 percent greater than on Baa-rated securities, differential risk characteristics can hardly explain a long-term, 60 percent higher rate of return on equity for large investment banks.⁶

Under competitive conditions, the price or spread of underwriting services should be closely

related to costs, including any risk of loss due to a decline in the value of the security before it can be resold. High concentration, high barriers to entry and excess profits, however, are generally associated with higher than competitive prices (prices above costs).

There is some direct evidence on the noncompetitive level of spreads in underwriting securities from studies that have compared "prices" for municipal revenue bonds, which are off-limits to commercial banks under the Glass-Steagall Act, and general obligation bonds where banks have not faced such restrictions. A review of fifteen studies by William Silber concluded that there was:

... a remarkable degree of consistency in the findings of previous investigators of the link between eligibility and borrowing costs. Statistically significant impacts of bank eligibility on municipal borrowing costs emerged from virtually every research effort (Silber, 1979, p. 6).

A review of more recent studies by Pugel and White (1985, p. 128) stated that there has been nothing to "cause us to alter his (Silber's) general conclusions."

More competitive structures abroad should, *ceteris paribus*, cause spreads to be lower in Europe than in the U.S. Recent changes in the Eurobond market and comparisons with the U.S. also provide evidence that competition is more intense in Europe. As can be seen in Table 1, even though the size of the market is much smaller, concentration among underwriters is considerably lower in the European market where commercial banks are allowed to compete in providing underwriting services and are prominent on the list of leading bookrunners. The evidence is that actual spreads have (after discounting) fallen substantially under competitive pressure (Mendelson, 1983, p. 16).

In addition to competitive effects, with the repeal of Glass-Steagall the costs of producing underwriting services are likely to fall. First, wasteful expenditures that typically develop when competition is deficient should be reduced.⁷ Second, diversification by both commercial and investment banks is likely to result in economies of scope and to the reduction of risk (Shaffer, 1982, pp. 15-16 and Federal Reserve Bank of New York, 1986, p. 46-47). Huertas (1985) has estimated the competitive impact of Glass-Steagall Act repeal as a reduction in spreads on corporate bonds of 40 percent, from 5/8 percent to 3/8 percent. A reduction this substantial is plausible on the basis of information from other financial markets. For example, studies comparing borrowing costs for revenue and general obligation municipal bonds have estimated a difference in spreads in the neighborhood of \$.30 to \$.40 per \$100 (Joehnk and Kidwell, 1979 and Rogowski, 1980).

In addition, there have been numerous studies estimating the effect of high concentration in local banking markets on bank loan rates (see, for example, Rhoades, 1977 and 1982 and Gilbert, 1984). Small but significant concentration effects have generally been found. It appears that the movement from an effectively concentrated market (with prices above competitive levels) to an effectively

TABLE 1
Concentration Among Underwriters in Eurobond and U.S. Corporate Securities Markets
(1986 Percentages)

	U.S. Corporate Debt	Eurobonds
Largest Firm	17.5%	8.4%
3 Largest Firms	45.7%	24.2%
5 Largest Firms	68.7%	34.2%
10 Largest Firms	92.3%	53.5%
Herfindahl Index	1,059.8	386.0*

*Estimated on the basis of the 50 largest bookrunners and lead managers, accounting for approximately 94% of volume. The remaining 6% was assumed to be divided equally among 6 firms.

Sources: *Euromoney*, September 1986, pp. 235-36. United State House of Representatives, Committee on Government Operations, 1987, p. 85.

competitive market reduces loan rates by at least 15 basis points.⁸ For a ten-year loan with a rate of 9 percent, the present value of this saving would be about \$.58 per \$100 borrowed.

Turning to the Euromarket, input cost and institutional differences make direct comparison of spreads with the U.S. difficult. The traditional fee for underwriting commercial paper in the United States has been 12.5 basis points. In the Eurocommercial paper markets, where competition has been more intense, the average spread has been about 3 basis points (McCauley and Hargraves, 1987, p. 32). The difference constitutes about \$.10 per \$100.

For Eurobonds, there is little available published work. Press reports indicate a volatile situation with respect to costs of securities issuance in response to recent structural changes in that market. What is clear is that financial institutions are finding it difficult to turn a profit on overseas underwriting, an observation that is consistent with a competitive market and inconsistent with the profitability of underwriting in the United States.⁹

Thus, all indications point to a substantial reduction in the costs of issuing new securities should commercial banks be allowed to enter the underwriting business in a major way. Based on our review of the literature on the banking industry and the securities market overseas, we concur with Huertas' (1985) estimate that underwriting spreads in the U.S. would fall by something in excess of one-third should the Glass-Steagall Act be repealed. The analysis of potential employment impacts in the next section uses a "most-likely" reduction in spreads of one-third, but will include sensitivity analyses indicating effects on employment due to Glass-Steagall repeal of somewhat smaller or larger changes in spreads.

EMPLOYMENT EFFECTS ESTIMATES

Responses to our survey of borrowers overwhelmingly indicate that the primary reason American firms raise capital overseas is lower all-in costs, including both interest rates and issuing costs. Given the size and structure of U.S. capital markets, entry by commercial banks into corporate underwriting should not lower the returns to the ultimate providers of capital, who are likely to be receiving competitive returns currently. Hence, any effects on capital costs resulting in repatriation of offshore activity, must come through a reduction in the costs of issuing and servicing financial instruments.

There is a substantial level of capital raised by American firms in non-U.S. markets. The 126 firms who responded to our survey indicated that they issued a total of \$28.5 billion in debt and equity in non-U.S. markets during 1986. Given the design of our sample and the 25% response rate to the survey, this would indicate a minimum total overseas issuance of debt and equity of approximately \$115 billion in 1986.¹⁰ The impact of these shifts on domestic employment depends on assumptions regarding the elasticity of overseas borrowing with respect to domestic costs, the number of jobs required in underwriting and related firms to support increased activity and the jobs created in capital goods industries due to added investment brought about by lower capital costs.

Survey responses shed light on the sensitivity of this overseas borrowing to costs in the U.S. They indicate that the elasticity of overseas activity with respect to domestic spreads is in the vicinity of $-.6$ (see Table A-4). Combining our assumption regarding the effect of increased competition on the price of underwriting services of a decrease of approximately one-third (for example from 75 to 50 basis points), with this estimate of elasticity of repatriation from our survey respondents enables a prediction of over \$22 billion as the most likely estimate of the extent of funds currently raised abroad by American firms that would shift to domestic markets.¹¹

An estimate of the additional workers required for any increased level of underwriting activity can be obtained from employment patterns of investment banks extensively engaged in underwriting. These firms generate approximately \$400,000 in revenue per employee (Securities Industry Association, 1986). Thus, it might appear that each additional million dollars in underwriting fees should translate into 2.5 jobs in underwriting firms. In fact, although we will work with this estimate as a lower bound on the number of new jobs created by each additional million dollars in underwriting revenue, the actual increase should be substantially larger. The figure of 2.5 jobs per million dollars in revenue reflects the

influence of the artificially inflated prices we have argued exist in the underwriting industry. Should fees fall by one-third because of the additional competition created by Glass-Steagall repeal, each million dollars in revenue at the new lower fees would require 3.75 additional employees.

An alternative estimate of the relationship between underwriting in the United States and securities industry employment can be obtained by regressing employment in large investment banks on their underwriting revenue. Estimating this relationship for the years 1980-1986 yields the following:

$$\text{Employment} = 15,203 + 8.5^*(\text{Underwriting income in } \$ \text{ millions})$$

$$t = 10.5 \quad t = 6.4$$

$$\bar{R}^2 = .863.$$

Thus, during this period each additional million dollars in underwriting fees generated an additional 8.5 jobs.¹²

In addition to direct jobs, underwriting activities generate jobs in related industries including those in outside firms involved in the issuing as well as firms in the distribution syndicate. Given the importance of sales personnel in the retail distribution network, a conservative estimate (supported by our surveys) is that at least as many additional jobs are created in firms outside the underwriting firm as within that firm.

Finally, a reduction in spreads is equivalent to a reduction in the *price* of capital goods. Recent evidence indicates that each 1% reduction in the price of capital goods results in an equilibrium steady-state increase in domestic investment of approximately \$200 million dollars a year and an increase in the U.S. capital stock of \$7.2 billion (about .4% of the domestic capital stock).¹³ The number of potential jobs from this increased activity can be estimated by multiplying the increased investment by .75 (labor's share of GNP) and dividing this figure by \$30,000 (approximately the average annual compensation of workers including fringe benefit costs).

Combining these analyses enables a projection of the total primary jobs that would be created by repeal of the Glass-Steagall Act. Table 2 presents three alternative projections of the net new jobs directly created as a result of repeal of the Glass-Steagall Act. The first column uses the most

TABLE 2
Alternative Projected Employment Impacts

	Low Projection	High Projection	Most Likely Projection
Assumed Effect on Spreads	-20%	-45%	-33%
Assumed Elasticity	-.40	-.80	-.60
Estimated Repatriation	\$9.2 b	\$41.4 b	\$22.8 b
Assumed Shift to U.S. by Foreign Borrowers (as % of Repatriation by U.S. Firms)	0%	100%	50%
Estimated Total New Domestic Underwriting	\$9.2 b	\$82.8 b	\$34.2 b
Implied New Spread	.60%	.41%	.50%
Estimated New Revenues	\$55 m	\$339 m	\$171 m
New Underwriting Jobs per \$1,000,000 in Revenue	2.5	8.5	5.5
Estimated New Underwriting Jobs	138	2882	941
Ratio of New Ancillary Jobs to New Underwriting Jobs	.5	2.0	1.0
TOTAL ESTIMATED NEW JOBS IN SECURITIES INDUSTRY	207	5764	1882
Implied Reduction in "Price" of Capital Goods	.15%	.34%	.25%
Implied Annual Increase in Investment	\$30 m	\$68 m	\$50 m
Estimated New Jobs in Capital Goods Sector	750	1700	1250
TOTAL ESTIMATED NEW PRIMARY JOBS	957	7464	3132

conservative assumptions for each key variable that appear reasonable based on our review of the literature and the responses to our surveys. Column two uses the set of reasonable assumptions that imply the greatest employment impact. The final column contains projected impacts resulting from what appear, to us, to be the most probable values for the crucial parameters. This "best guess" estimate generates a predicted increase of slightly over 3,000 new jobs in the financial and capital goods sectors that would be directly created should commercial banks be allowed to engage in all forms of underwriting in the U.S. While small compared to some other recent shifts in securities employment, these marginal changes represent an important part of the net benefits that might be gained by Glass-Steagall repeal. They are of particular interest in a time when other shifts have been creating high levels of unemployment in the securities industry.¹⁴

The net change in employment associated with these direct impacts will depend critically on the state of the national economy at the time of repeal and hence the on the magnitude of the expenditure multiplier. Empirical estimates indicate that the expenditure multiplier may range from a low of zero to a high of almost four, depending on whether the economy is initially at full employment or contains significant idle resources. If repeal occurs at a time of full employment of labor and capital, then in the absence of offsetting changes in fiscal or monetary policy, increased activity in the financial and capital goods sectors will serve to create inflationary pressure rather than net new employment. The outcome will be a shift of employment to these sectors and away from other areas of the economy. This may still be advantageous for the economy if shifts towards capital investment increase future productivity. If the economy contains significant idle resources, however, spending by those filling the newly created jobs will elicit additional production and increase employment throughout the economy.

If the multiplier is as large as four (probably the largest reasonable magnitude—implying a marginal propensity to save, tax and import for the entire economy of about .25), then the high projection of 7,464 direct jobs would induce another 22,392 indirect jobs for a total employment effect of 29,856 jobs. If our most likely estimate of 3,132 new primary jobs is accurate, then in times of high unemployment these could induce an additional 9,396 secondary jobs throughout the economy due to aggregate demand stimulation, for a total employment effect of 12,528 jobs. This stimulatory impact could be achieved with no change in taxes, government spending or the size of the budget deficit.

Alternatively, should repeal occur in a time of basically full employment, one would expect no net increase in employment although there would be shifts in the sectoral and locational distribution of employment. However, the employment stimulus resulting from increased underwriting activity should enable reduction in the size of the budget deficit (on the order of \$170 million a year under our most likely projections) without worry about the contractionary impact of such a spending reduction (or tax increase). The appeal of these outcomes should be enhanced since their benefits are achieved by a policy that is close to costless and serves to enhance economic efficiency.

ANCILLARY BENEFITS

In addition to its effect on employment in the securities industry, respondents to our survey suggested that the increased investment brought about by lower capital costs due to Glass-Steagall repeal would create a small but noticeable increase in labor productivity and a slight improvement in America's competitive position in the world economy.

Respondents claimed that they believed Glass-Steagall repeal would open up capital markets for a significant portion of American industry. Approximately one-third of responding firms replied that were Glass-Steagall to be repealed their firm would experience increased access to capital markets in addition to the cost reductions that almost all firms foresaw (see Table A-6). Firms expecting greater access to capital were disproportionately concentrated among mid-sized firms (annual sales between \$250 million and \$1 billion).

As another benefit, this line of reasoning suggests that, contrary to what is widely believed, removal of Glass-Steagall restrictions may serve to reduce the riskiness of the basic banking industry in ways that go beyond the obvious ability to diversify activity. Under the current institutional arrangement, banks

are forced to carry a greater than optimal portion of the financing of local firms on their books as loans. Given that small firms are inherently risky, to the extent that banks are able through underwriting activities to place this risk with willing investors in the debt and equity markets, the fundamental soundness of these banks should increase. There should also be a decrease in the cost of funds for such firms since investors willing to buy their debt or equity should demand a lower risk premium than that required by inherently conservative and highly regulated commercial banks when loaning funds. Once again, this lowering of capital costs for firms could have a significant impact on both employment growth and American competitiveness, although it is impossible to use available data to provide an estimate of the magnitude of this effect.

Finally, while the benefits to firms in the financial industry that would arise from the diversification of risk arising from imperfect correlation of returns in investment and commercial banking have been discussed in the literature, no mention has been made of the benefits that would occur because the less than perfect correlation between activity in these two areas would serve to stabilize employment as well. To the extent that there are search and training costs to hiring and laying off workers, greater stability of employment will reduce these deadweight losses to the economy. Since the skills needed for investment and commercial banking are likely to be highly complementary, we have every reason to believe that combination of these activities into a single corporate entity will reduce such costs to the economy.

SUMMARY AND CONCLUSIONS

The results of this study support a contention that increases in competition from repeal of the Glass-Steagall Act would result in significantly lower prices for underwriting. These price reductions will come from (1) the removal of monopoly profits currently found in underwriting, (2) reductions in the degree of X-inefficiency brought about by increased competitive pressure, and (3) cost savings from economies of scope and diversification when underwriting can be combined with other financial activities more traditionally the province of commercial banks.

Lower underwriting costs will serve to induce both American and foreign firms active in off-shore markets to shift to domestic capital markets, thereby increasing employment in underwriting and firms providing direct services to the underwriting industry. In addition, lower capital costs will serve to stimulate investment in the domestic economy, creating jobs in the capital goods sector. The net effect on employment depends on whether this initial impact occurs during a time of full employment, when it will cause workers to be shifted from other sectors, or during a time of idle capacity when the increased demand from those who fill the initial jobs will reverberate through the economy. In the case of excess capacity, the total employment impact of Glass-Steagall repeal is likely to be over 12,500 and could be as high as almost 30,000 new jobs.

Respondents to our survey clearly indicate that corporate America is aware of these potential benefits from increased competition in the financial sector. They also suggest other, more minor, benefits that would accrue to the U.S. economy from Glass-Steagall repeal including higher levels of productivity, an improved balance of trade, less variability in securities industry employment and, perhaps, less overall risk to the banking industry due to the ability to place risk currently held as a part of the loan portfolio with buyers of underwritten securities. These factors need to be included along with the more widely discussed effects on banking safety and profitability in any discussion of the wisdom of further economic freedom for commercial banks.

APPENDIX A Survey of Borrowers

We mailed survey forms to approximately 500 firms selected to capture as fully as possible those firms who were active in both U.S. and overseas financial markets. Surveys were sent to all firms listed as issuing debt between June 1986 and June 1987 in the *Standard and Poor's Bond Guide* as well as all U.S. firms listed by either *The Institutional Investor (International Edition)* or the *International Bond Survey* as

TABLE A-1
Reasons for Using Overseas Capital Markets

Cost Advantages	55%
Regulatory Differences	8%
Currency Hedging	8%
To Finance Overseas Operations	6%
Other Reasons	24%

TABLE A-2
Importance of Various Reasons for Overseas Financing

	Very Important	Somewhat Important	Not Too Important	Not at All Important
Interest Rate Differences	71%	27%	2%	0%
Other Cost Differences	12%	31%	41%	16%
Regulatory Differences	19%	19%	42%	19%
Diversity of Sources	29%	43%	10%	18%
Recommendation of Advisors	12%	37%	33%	19%
Need for Foreign Currency	22%	10%	8%	59%
Beliefs about Changes in Value of the Dollar	2%	22%	18%	58%

TABLE A-3
Extent of Capital Raising by Firms Active in Non-U.S. Financial Markets

	Mean Amount Raised in 1986	Proportion from Non-U.S. Sources
Short-term Paper or Notes (Less Than 1 Year Maturity)	\$7,079,000,000	5.97%
Intermediate-term Bonds (1 to 5 Year Maturities)	\$ 284,784,000	10.77%
Long-term Bonds (Over 5 Years Maturity)	\$ 427,413,000	27.15%
New Equity	\$ 25,327,000	2.13%

TABLE A-4
Proportion of Foreign Borrowing Expected to Shift to U.S. by a Reduction in Spreads of Various Amounts

Proportion Shifted	20% Reduction	33% Reduction	50% Reduction
Less Than 10%	19 (63%)	17 (61%)	13 (50%)
10%-19%	5 (17%)	3 (11%)	0
20%-29%	3 (10%)	2 (7%)	4 (15%)
30%-39%	0	2 (7%)	1 (4%)
40% or More	3 (10%)	4 (14%)	8 (31%)
Uncertain*	18	20	22
Mean Shift	12.4%	18.8%	28.0%
Implied Elasticity	.62	.57	.56

*Includes those who answered "We look at all-in costs." A reduction in spreads would lower such costs. These respondents have been excluded from the calculation of percentages.

TABLE A-5
Predicted Impact on Responding Firm if Commercial Banks Were Granted Underwriting Powers*

Decreased in Costs of Raising Funds	55%
More Innovation in Financial Services	20%
Increased Risk	5%
Little Change	41%

*Percentages add to more than 100 due to some respondents seeing more than one impact.

issuing debt in the Eurobond market during the same year. Finally, we added a group of 50 firms who had borrowed in neither market during the past year. These firms were selected from the *Standard and Poor's Corporate Guide* following a stratified selection scheme so that firms of all sizes were represented. Surveys were addressed by name to the chief executive officer or the chief financial officer at each firm with a request that they be routed to the most appropriate individual within the firm. Responses were received from 126 firms, approximately 25% of the sample. This represents an unusually high response rate for a "blind" survey of this type. Comparison of the respondents with the population to whom surveys were sent does not reveal any significant bias in terms of size, location, industry, or borrowing and equity fund raising between those who responded and those who did not respond.

A number of questions on the survey were designed to investigate the extent of overseas borrowing and equity issuance on the part of U.S. firms. Of the respondents, 43.1% indicated that they had issued debt or equity in non-U.S. markets during the past five years and 25.2% had raised funds overseas 1986. Of those who had been active in non-U.S. markets, 20.2% had been involved in three or more markets, 38.5% in two markets and the balance in only one foreign market.

Two questions addressed why U.S. firms made use of foreign securities markets. Overwhelmingly, the most important reason cited was cost advantages in these markets. Table A-1 presents the reasons cited by respondents in answer to an open-ended question as to why they raised funds overseas while Table A-2 presents the responses to a series of questions as to the relative importance of various factors in the firm's decision to turn to foreign capital markets.

In order to obtain a picture of the extent of overseas activity, firms were asked both the total amount of capital raised in various categories and the percentage of that capital raised overseas in both 1986 and the past five years. Table A-3 presents these results for 1986. Those for the past five years are similar.

Of primary interest is the proportion of this overseas activity that would be shifted to U.S. markets if underwriting costs were to fall due to the increased competition provided by the removal of Glass-Steagall restrictions. Table A-4 indicates the sensitivity of our respondents to such spread decreases.

Finally, a set of questions were asked of all respondents to determine the effects they expected if Glass-Steagall were repealed. Tables A-5 and A-6 present the responses to these questions.

TABLE A-6
Predicted Impact in Specific Areas

	Reduce Greatly	Reduce Somewhat	Have No Effect	Increase Somewhat	Increase Greatly
Effect on Responding Firm's Cost of Funds	5%	65%	30%	0%	0%
Effect on Responding Firm's Access to Capital	1%	1%	64%	33%	1%
Effect on Riskiness of Financial System	0%	6%	36%	58%	0%

NOTES

1. Currently, if smaller, local firms do not wish to deal with local securities underwriters where concentration ratios (and therefore fees) are likely to be high, their only alternative (at least until recently) is to enter the national market through the use of "junk bonds." Not only do such bonds carry a high intrinsic interest rate (brought about by the firm's lack of a national reputation), but this market has also been highly concentrated (indeed, it has until recently been dominated by a single firm). Given current uncertainty in the high-yield bond market, it is not clear to what extent that option will continue to be available as an alternative to local underwriting firms at any price.
2. Under Glass-Steagall, banks currently possess the ability to underwrite Treasury and agency securities as well as municipal general obligation instruments. Recent interpretations by regulatory agencies have relaxed Glass-Steagall constraints somewhat and permitted additional underwriting activity by commercial banks (Federal Reserve Board, 1987a). It remains the case that commercial banks are prohibited from entering the market for underwriting corporate securities, by far the largest portion of U.S. underwriting activity.
3. Litan (1987, pp. 70-71) indicates that employment by foreign banks and securities houses operating in London increased by over 11,000 or 26 percent in the single year following deregulation of that market.
4. In recent years, underwriting has provided a relatively small proportion of investment banking revenues, i.e. 10 percent or less (Pugel and White, 1985, pp. 99, 124-25). Part of the remaining revenue, however, may be derived from activities related to underwriting activity that are effectively denied to commercial banks by prohibitions on underwriting.
5. Rate of return data for large investment banks is from Security Industries Association, 1987, p. 5 and assumes a 46 percent corporate tax rate. Rate of return data for commercial banks is from Federal Reserve Board, 1987b, p. 539.
6. We recognize that reported equity for both commercial banks and securities firms may differ significantly from true values. It is not clear, however, whether or to what extent this consideration will differentially bias reported profit rates.
7. There is very little in the way of direct evidence on the extent of such wasteful expenditures in underwriting. It is still too soon after the recent deregulation in London to enable a full evaluation of expenditures there, although heuristic examination indicates that "bowler hats, three-hour lunches, and six-hour days have become fond memories" (*Wall Street Journal*, October 14, 1987). Although not strictly comparable, studies in other regulated industries with barriers to entry have found substantial inefficiencies and excess costs of production (see, for example, Edwards, 1977, pp. 147-62 and Primeaux, 1977, pp. 105-108).
8. While the early studies found the concentration effect on prices to be small, later studies found relationships of greater magnitude, for example, reduction in loan rates of from 30 to 40 basis points (Heggestad and Mingo, 1977).
9. In addition to the survey of borrowers discussed in Appendix A, we also surveyed banks in New York during 1987. With regard to underwriting abroad, one respondent remarked: "the U.S. law enforces price-fixing on securities issuers while the lack of legal discipline lowers fees in Europe." He asserted that his bank expected to break even at best on European underwriting, as compared with average net profits of 1/8 to 1/4 percent on U.S. issues.
10. The actual level may be somewhat higher since our sample design did not capture firms that issued debt or equity only in markets other than the U.S. and Europe. By way of contrast, the Securities Industry Association (1987) reports total issuance of long and short-term debt as well as new equity by U.S. firms in the Euromarket of \$62.2 billion in 1986. The higher figures indicated by our survey are due to the inclusion of foreign bond issues within single European countries as well as Asian and other non-European issues in total off-shore activity. It should be noted that in both the SIA data and our data, offshore debt issuance is far larger than new equity.
11. Actually, the total increase in domestic underwriting could be significantly greater since a lowering of fees in the U.S. would not only cause American firms to shift off-shore activity back to U.S. markets, but would also induce foreign firms at the margin to increase their capital raising in the American market. We have no estimate of the extent to which this would occur but there is likely to be a substantial impact. It is worth noting in this context that U.S. companies have been responsible for less than 30% of total Eurobond activity in recent years.
12. The large constant in this equation reflects the fact that large investment banks engage in activities other than underwriting. The magnitude of the coefficient in this estimate will be overstated to the extent that there exist omitted variable biases arising from the correlation between underwriting activity and other activities in these firms. Thus, it should be taken as an upper bound on the possible employment effects.
13. These figures are derived from estimates presented in Shapiro (1986). Shapiro's figures are for 1982, but the price of capital goods has been almost stable for the past several years.
14. These estimates are for the U.S. as a whole. The added jobs will obviously be concentrated in particular geographic markets (especially the New York metropolitan area). Before the total number is dismissed as being insignificant, consider the level of effort that local officials would devote to attracting a new employer who promised to create even 1,000 jobs in a city.

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