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The Impact of Bank Investment Sales on Disintermediation of Bank Deposits

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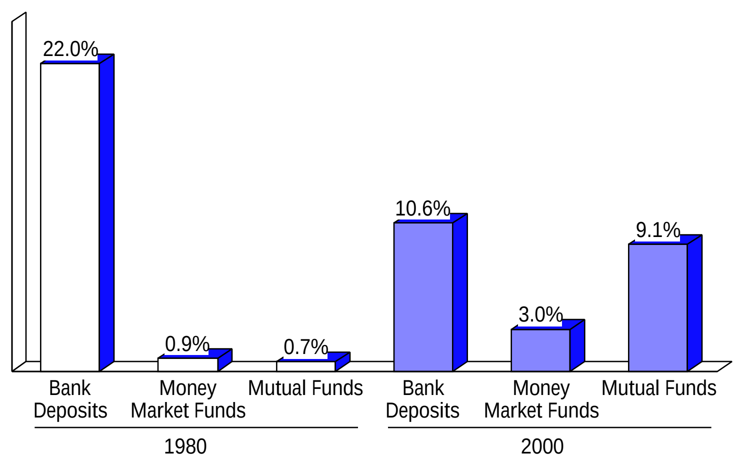
The Impact of Bank Investment Sales on Disintermediation of Bank Deposits

Ever since banks and savings institutions began selling mutual funds and annuities in the early 1980s there has been tension between the advocates of transforming the bank branch into a financial services store and the executives responsible for the traditional core business of banking — taking in deposits and making loans. By selling investments a bank is essentially converting some spread income from deposits into fee income. Alarmists in the traditional banking camp argue that by selling investments a bank could disintermediate itself out of existence.

Advocates of the bank as financial services company counter that the bank's customers need alternative investments, and in fact will buy the investments from some other source (a securities brokerage firm, financial planner, mutual fund, insurance company, etc.) if the bank does not sell them. Federal Reserve data bear this out. In the past two decades, the banking industry's share of total U.S. household assets fell 52 percent to 10.6 percent, while the share of mutual funds increased 13 times to 9.1 percent.

Changes in How U.S. Households Hold Their Financial Assets

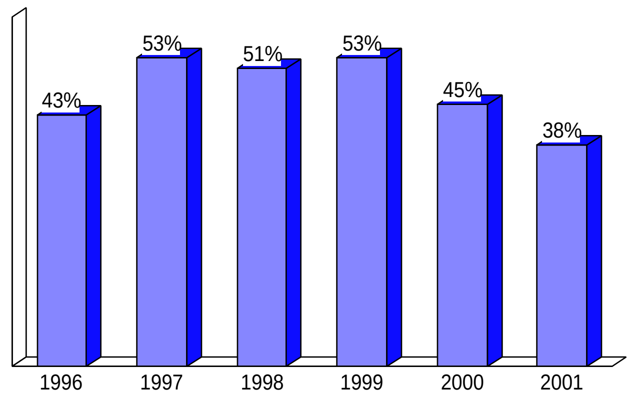


Advocates of selling investments point out that since the bank's competitors are selling investments, by not selling investments the bank is ceding its customer's investment business to another bank or securities firm that is also offering banking services like loans and federally insured deposits. By letting customers establish relationships with competitors that also provide banking services, the bank is not just at risk of losing some deposits, but is placing its whole relationship with the customer at risk.

Another factor is that many banks have been trying to diversify their business away from the spread business of intermediating deposits into loans. By building up their fee business, banks can insulate themselves more from the cyclical nature of load demand. Indeed, many analysts will downgrade a bank's stock if the bank has less fee income than its peers. But the problem for banks is that the fee income is derived in many cases by cannibalizing the bank's own deposits. Thus instead of a bank augmenting its spread income with some fee income, the fee income in fact is cutting into the spread income. Deposit products and investment products compete for some of the same dollars.

Interestingly, in spite of this internal conflict, during the late 1990s about half of the banks in the annual *Consumer Investments Study* we conduct for the Consumer Bankers Association actively tried to convert maturing Certificates of Deposit into investment sales. But the number of banks targeting deposits for investment sales does seem to be cyclical, rising during periods of slack loan demand and shrinking when banks are more fully loaned up, as has been the case recently. Increases in the demand for loans probably largely explain the drop in attempting to convert CD deposits in the mid 1990s and again during the first two years of this decade.

Percent of Banks Converting CDs to Investments



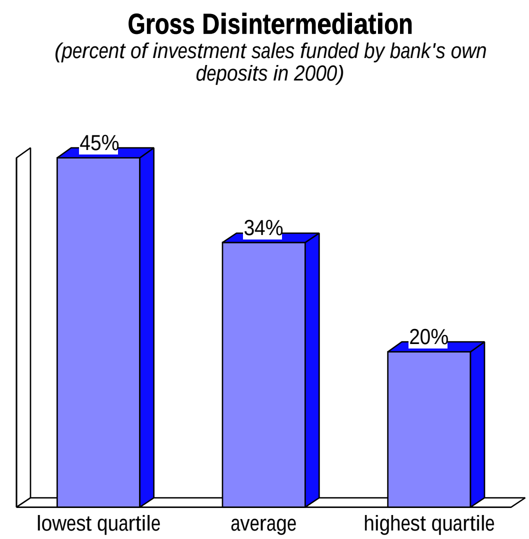
In this white paper we address several issues that can help inform this debate:

- What is the actual impact of selling investments on a bank's deposits?
- What factors influence the extent to which investment sales cannibalize deposits?
- What is the relative profitability of investment sales and bank deposits?
- How can a bank better control disintermediation?

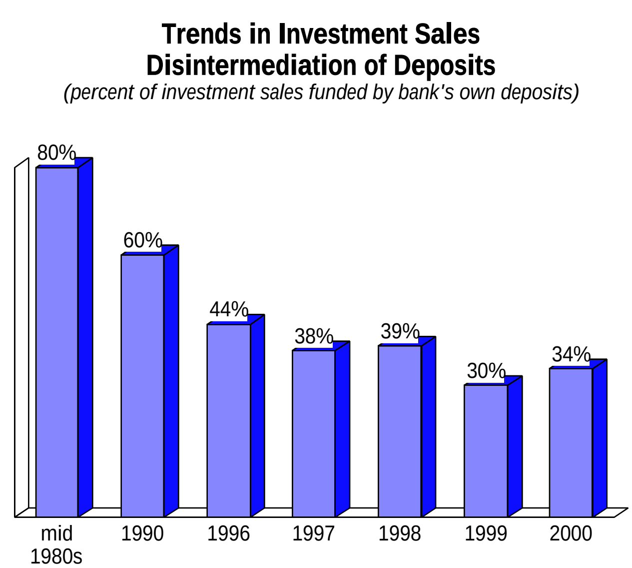
Measuring The Extent of Disintermediation

In our annual *Kehrer-Essex Bank Investment Program Benchmarking Study*, we have measured the extent of disintermediation since 1991. That study covers a sufficient number of banks to be quite representative of the entire US banking industry. For example, the 2000 study covered 666 banks that collectively accounted for 59 percent of all bank mutual fund and annuity sales.

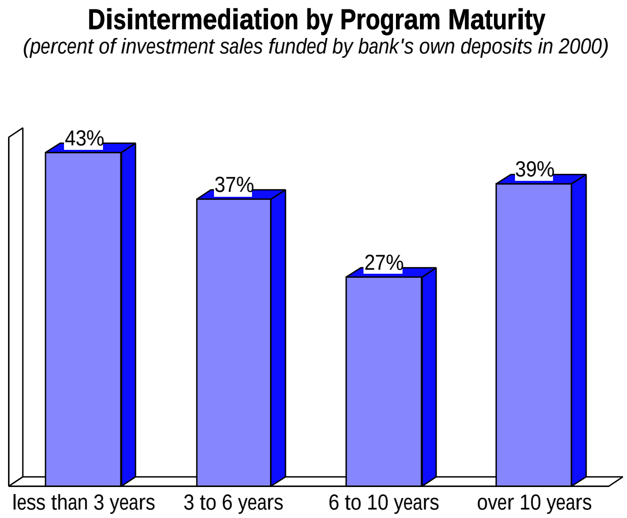
The benchmarking data indicate that, in 2000, 34 percent of the funds used to purchase an investment in a bank were drawn on that bank's interest bearing deposits. The range of disintermediation experience in the banks studied varied widely, from a low of 6 percent to a high of 75 percent. The median was 30 percent. One-fourth of the banks had less that 20 percent of their investment sales paid for by their own deposits, while another fourth had more than 45 percent of the investment sales written on domestic funds.



We have observed a general downward trend over the years that we have monitored the extent to which investment sales disintermediate deposits. In the mid 1980s, when S&Ls were just beginning to sell annuities, it was common for institutions to report that 80 percent of the dollars used to purchase investments came from the bank's own deposits. By the time we began systematically measuring disintermediation, the average bank reported that 60 percent of the investment sales were funded by their own deposits. This statistic generally declined year-by-year, reaching a low of 30 percent in 1999 before moving back up to 34 percent in 2000.



This downward trend suggests that banks have learned how to control the extent of disintermediation as they have gained experience selling investments. But there is not such a clear correlation of the disintermediation rate with the age of the investment sales program. Banks that have been selling investments for six to ten years have a deposit disintermediation rate that is 10 percentage points less than banks with three to six years of investment sales experience and 16 percentage points less than banks with less than three years in investment sales. But the banks that have been selling investments longer than ten years have higher disintermediation rates, on average, than banks that have been in the investment sales business for between three and ten years. (The typical bank has been selling investments for 10 years, on average.)



Netting Out Money Leaving Anyway. One issue in measuring the extent to which investment sales disintermediate deposits is that people are using their deposits to invest in mutual funds, annuities, and stocks and bonds whether their bank is selling investments or not. About half of the banks that report disintermediation rates in our annual survey attempt to measure the extent to which money is leaving anyway. This is generally estimated in one of two ways:

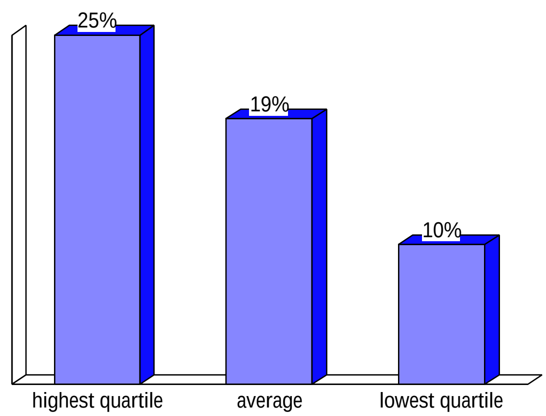
- As part of post-sale customer satisfaction interviews, a sample of customers is asked whether they would have used the deposits to buy an investment from some other source if the bank was not selling investments.

- As a deposit retention tactic, tellers ask customers making a significant withdrawal what they plan to do with the funds. If the customer says the money will be used to make an investment, the teller encourages the customer to first talk with the bank's investments sales person in the branch before investing elsewhere.

The first method is similar to the exit polls conducted by the media on election day. The second method is often tracked by the bank for commission accounting, because some banks pay higher sales commissions on investment sales that do not disintermediate deposits. In those cases, investment sales staff naturally insist on credit for intercepting funds that were going out the door anyway.

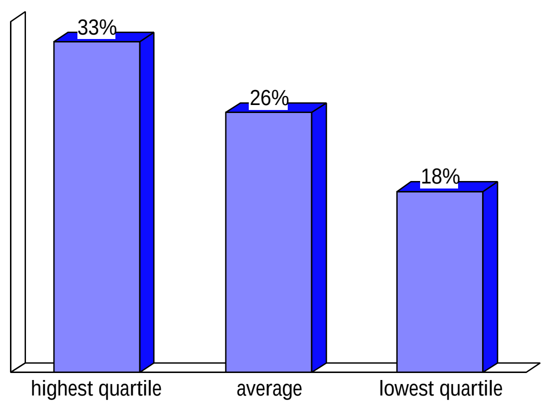
In 2000 these banks estimated that, on average, 19 percent of the domestic deposits used to fund investment purchases were intercepted or leaving anyway to purchase investments. Again, there is substantial variation in this "interception rate" across banks. In one-fourth of the banks, the percent of disintermediated deposits that was intercepted or leaving anyway was at least 25 percent. In another quarter of the banks measuring money leaving anyway, less than 10 percent of disintermediated funds are estimated to have been diverted to the bank's investment sales instead of going to some competitor's investment sales.

Funds Intercepted
(percent of disintermediated deposits that were leaving the bank anyway in 2000)



Banks that measure money leaving anyway focus on what we call net disintermediation — the domestic deposits that were used to fund the investment sales, less the deposits that were leaving anyway. The *net disintermediation rate* for these banks averages 26 percent. One-fourth of them experience net disintermediation rates of less than 18 percent, while another fourth have net disintermediation rates greater than 33 percent.

Net Disintermediation
(gross disintermediation minus funds intercepted in 2000)



Thus the typical bank had a *gross disintermediation rate* of 34 percent in 2000, but a net disintermediation rate of only 26 percent. This is substantially lower than some alarmists believe.

The Replenishment Hypothesis. Ever since the debate over deposit cannibalization was engaged, advocates of investment sales have argued that just looking at disintermediation at a point in time overstates the extent that investment sales cannibalize deposits. They argue that by selling an investment to a deposit customer, the customer becomes more closely tied to the bank and is more likely to consolidate banking business with the bank. Consequently, the customer replenishes the lost deposits over time.

Many banks have conducted tracking studies that demonstrate that customers who purchase investments replenish their deposits over time. Remarkably, many of these studies indicate that the lost balances are fully replenished in the identical time period — 18 months.

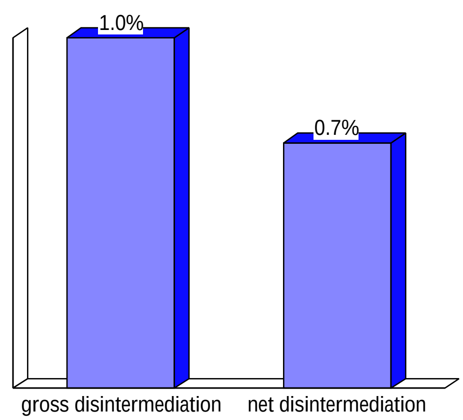
Unfortunately, these tracking studies are statistically flawed, because of what a statistician would call selection bias. Customers who buy investments at a bank are more likely to be accumulating assets than customers who do not buy investments. Consequently, as a group, the investing customers would be increasing their deposit balances faster than the non investing customers, whether they purchased an investment from the bank or not. While the tracking studies demonstrate that individuals who invest where they bank have higher deposit growth rates after the investment purchase than other depositors, the studies do not tell us what those deposits would have been if the individual had not used deposits to purchase an investment at the bank.

We conclude that true net disintermediation rates are probably lower than our estimates due to deposit replenishment, but that the tracking studies do not enable us to calculate the extent of replenishment.

Impact on Bank's Deposit Base. The disintermediation rate is the share of a bank's investment sales that are funded by the bank's own deposits. That is not the same as the percentage of a bank's deposits that are disintermediated by investment sales, because the annual investment sales in a bank tend to be a small fraction of a bank's deposits. For example, in 2000, bank investment sales averaged 3.5 percent of bank retail deposits. In 2000, gross disintermediated deposits averaged just 1 percent of a bank's retail deposits. The net disintermediated dollars, after accounting for money that was leaving the bank anyway, amounted to just 0.7 percent of the average bank's retail deposits, certainly not a significant drain on a bank's deposit base.

How Much Of The Deposit Base Is Affected?

(disintermediated deposits per year as a percent of total retail deposits in 2000)

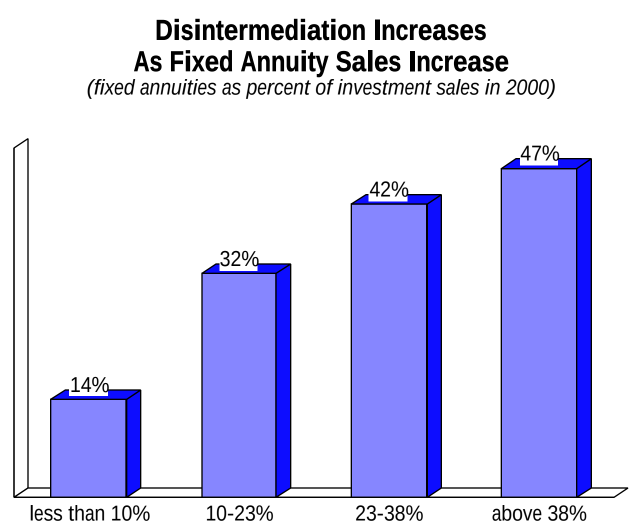


Determinants of Disintermediation

We examined several factors that might influence the extent of disintermediation induced by investment sales:

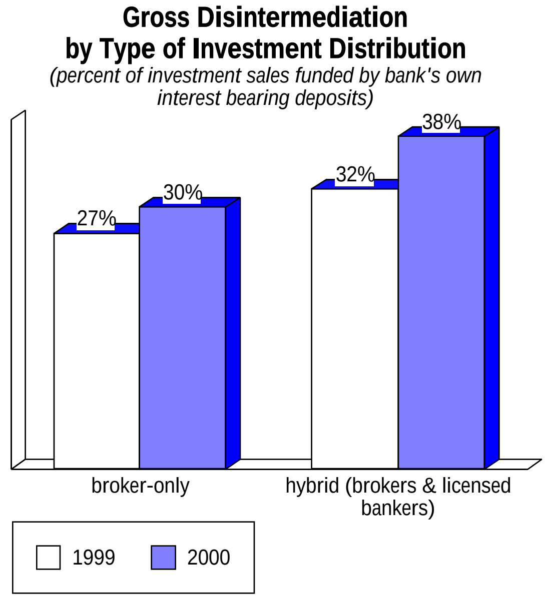
- product mix
- type of sales force
- productivity of the sales force
- level of referrals to the sales force

Product Mix. The gross disintermediation rate varies by a bank's investment sales mix. Sales of fixed annuities, which are a closer substitute for Certificates of Deposit than mutual funds or variable annuities are, tend to result in greater disintermediation than mutual fund and VA sales. We can demonstrate that fact by comparing the gross disintermediation rates of banks with different sales mixes. Banks where fixed annuities account for less than 10 percent of investment sales had average gross disintermediation rates of 14 percent, less than half the disintermediation experienced by banks that derive between 10 and 23 percent of their investment services revenue from fixed annuities. Similarly, banks where fixed annuities account for between 23 and 37 percent of investment services revenue have three times the gross disintermediation rate of banks where fixed annuities contribute less than 10 percent of revenue. And banks with an even higher sales mix of fixed annuities experience still higher gross disintermediation of deposits.



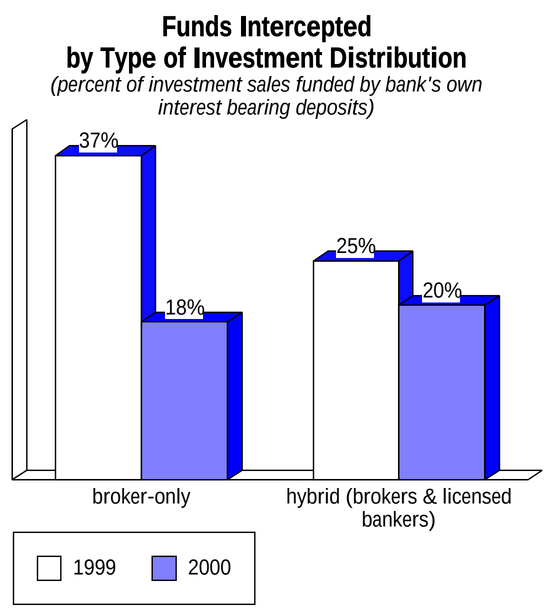
The relationship between fixed annuity sales and disintermediation is undoubtedly part of the reason why the gross disintermediation rate increased in 2000, after several years of decline. Fixed annuity sales were up substantially that year. Thus we would expect another increase in gross disintermediation rates during 2001, when fixed annuity sales accounted for more than half the revenue in a typical bank broker/dealer.

Type of Sales Force. The gross disintermediation rate is higher in banks that combine traditional stockbrokers and licensed platform bankers than in broker-only programs. In 2000, the gross disintermediation rates in these "hybrid" sales forces averaged 38 percent, 8 percentage points higher than in broker-only programs. Similarly, in 1999, the gross disintermediation rate in hybrid programs exceeded broker-only programs by 5 percentage points.



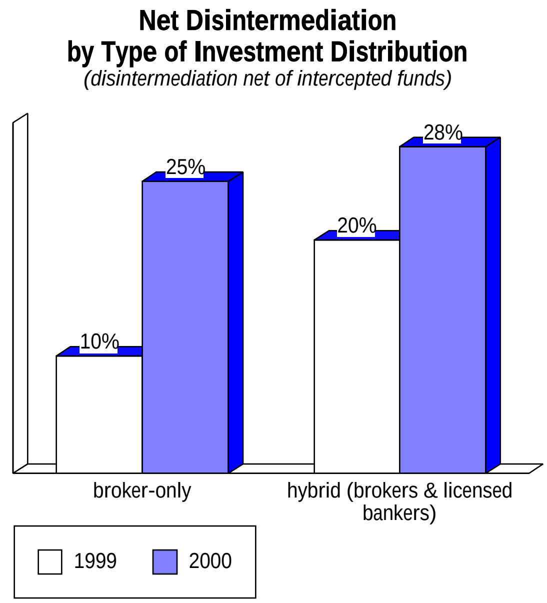
Disintermediation is higher in sales produced by licensed platform bankers for two reasons. First, licensed bankers sell more fixed annuities than traditional stockbrokers working in a bank. In some banks, fixed annuities are the only investments sold by licensed bankers. Because fixed annuities share important characteristics of Certificates of Deposit — fixed interest rates and guarantee of principal — platform bankers and their customers are more comfortable with fixed annuities than with mutual funds, variable annuities, and stocks and bonds.

Secondly, licensed platform bankers are more often in a position where they are talking with a customer who has a CD maturing than a bank stockbroker is. When a customer is talking to the banker about what to do with the money in the CD, it is more likely that the CD would be used to fund the annuity than in the case where a bank stockbroker is talking to a customer about an overall investment plan.



In 2000, banks with hybrid sales forces were slightly better at intercepting funds leaving anyway for alternative investments; 20 percent of the gross disintermediated funds in hybrid investment sales programs were intercepted, compared to 18 percent in broker-only programs. But in 1999, the interception rate was 12 percentage points higher in broker-only programs than in banks with investment sales forces that combined brokers and bankers. We conclude that it is not clear whether brokers or licensed bankers are better at intercepting money leaving anyway.

Largely because gross disintermediation rates are lower in broker-only programs, banks that only use traditional stockbrokers to sell investments have lower net disintermediation rates than banks that use a combination of brokers and licensed bankers. In 2000, the net disintermediation rate in broker-only programs was 3 percentage points lower than in hybrid programs. But in 1999, when broker-only sales forces had better interception rates as well as lower gross disintermediation, the net disintermediation rates in broker-only programs were half that in hybrid programs, on average.



The growth in the number of banks with hybrid programs is another reason why gross disintermediation rates increased in 2000.

Sales Force Productivity. In the early days of marketing investments through banks, when the tension between high investment sales and retaining deposits was stronger than today, some bank executives favored a somewhat passive investment sales force. These executives were concerned that a pro active investment sales force would result in more deposit cannibalization than a sales force that essentially took orders for investments, only if the customer asked for a mutual fund or annuity. Over the years some semblance of this preference continues to exist, manifested by suspicions that a highly productive investment sales force would generate high levels of disintermediation.

We examined this possibility, using data from the *1999 Kehrer-Essex Benchmarking Study*. First we identified banks where the bank's stockbroker sales force was in the top quartile of broker productivity among all the banks in the study. Then we compared disintermediation rates in these banks with the most highly productive sales forces with the other banks in the study.

The banks with the most highly productive brokers actually had somewhat lower gross disintermediation rates than banks with less productive brokerage sales forces; gross disintermediation rates in banks in the top 25 percent of broker productivity had an average gross disintermediation rate of 37 percent, 3 percentage points less than other banks.

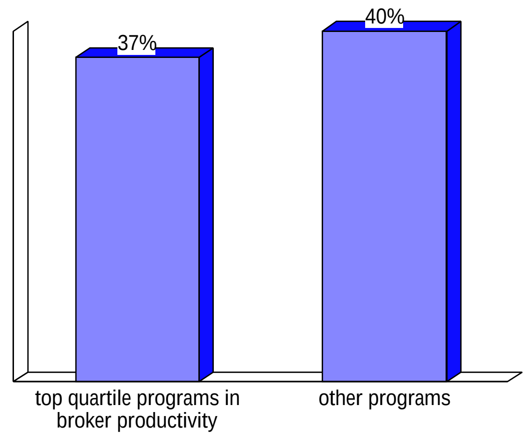
While that is a small difference, the more productive brokers were more than twice as effective as less productive brokers in identifying money leaving anyway. Seventy percent of the domestic deposits converted to investment sales in the banks with the most productive broker sales forces were leaving anyway to buy investments, compared to just 31 percent in banks with less productive brokers. Thus better reps appear to be better at intercepting money leaving anyway.

But part of the observed superiority in interception rates might be due to differences in characteristics of the bank or the bank's customer base. For example, a bank with highly productive brokers is likely to have more customers who are investing anyway. That may be why the reps are more productive, or why the bank was able to attract better reps.

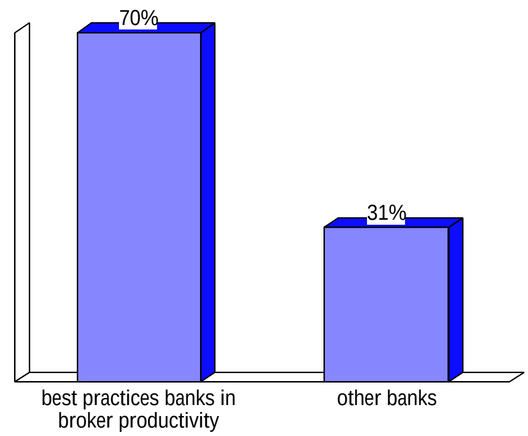
Largely due to the wide superiority in interception rates, banks with the most productive broker sales forces have only 30 percent of the net disintermediation rates of banks with less productive brokers. The average net disintermediation rate of banks in the top quartile of broker productivity is only 9 percent. Thus this evidence argues that banks concerned about deposit disintermediation need not be wary of the most productive brokers.

We performed the same kind of analysis on licensed platform banker sales forces, first identifying the banks in the top quartile in licensed banker productivity and then comparing disintermediation between banks with

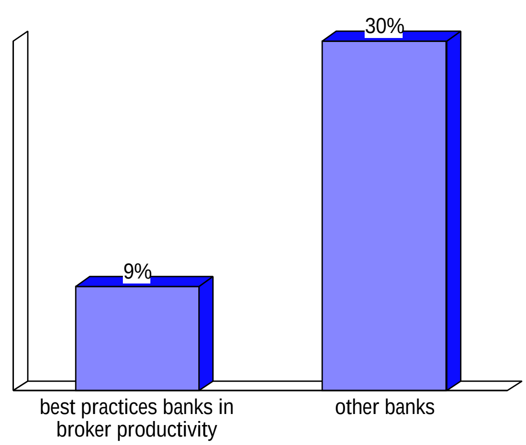
Do More Productive Reps Disintermediate More than Less Productive Reps?
(percent of investment sales funded by bank's own deposits in 1999)



Which Reps Are Better at Intercepting Money Leaving?
(percent of disintermediated deposits leaving anyway in 1999)

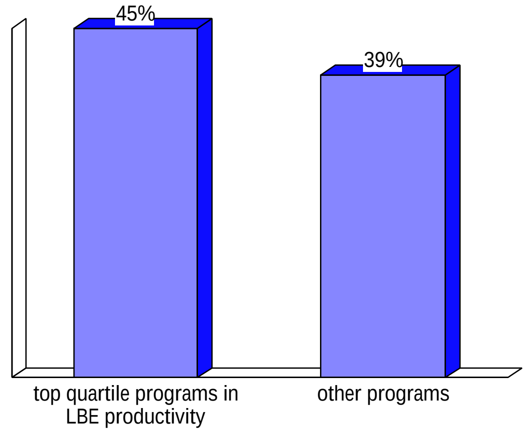


Net Disintermediation by Rep Productivity
(disintermediation net of intercepted funds in 1999)



top producing licensed bankers and the banks with less productive licensed banker sales forces. Contrary to our findings for bank stockbrokers, we found that the banks in the top quartile of licensed banker productivity had gross disintermediation rates that were 6 percentage points higher than banks with less productive licensed bankers.

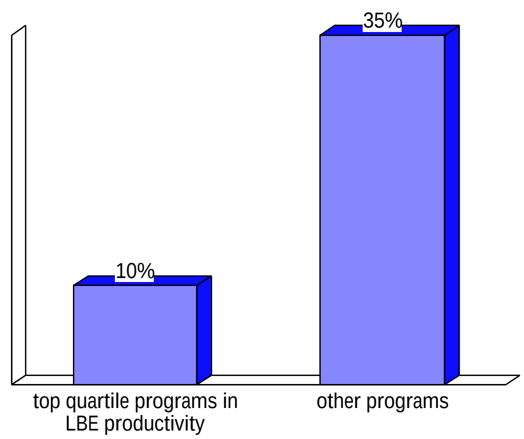
Do More Productive Licensed Bankers Disintermediate More?
(percent of investment sales funded by bank's own deposits in 1999)



This also helps explain why gross disintermediation rates were up in 2000, after several years of decline. As licensed platform banker sales forces mature, they become more productive as investment sales people. Apparently they also are more likely to cannibalize deposits.

Not only are banks with less productive licensed sales forces less likely to convert a deposit to alternative investments, but they are also better at intercepting money leaving anyway, again contrary to our findings for bank stock brokers. In the banks with less productive licensed banker sales forces, 35 percent of the banks' own deposits used to purchase investments were leaving anyway, 3.5 times the interception rate in banks with the most productive licensed bankers. Apparently, the less productive banker sales forces are similar to the passive order takers envisaged by the bankers who prefer investment sales to be just a defensive measure — selling investments primarily to customers who are about to take their money out of the bank to invest anyway.

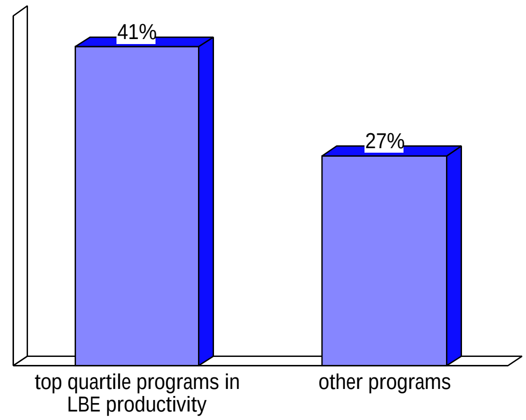
Which Licensed Bankers Are Better at Intercepting Money Leaving?
(percent of disintermediated deposits leaving anyway in 1999)



Both because they have higher gross disintermediation rates and much lower interception rates, the most productive licensed bankers have net disintermediation rates that are 52 percent higher than less productive bankers. Thus while bankers concerned about the disintermediating effects of investment sales should not shun the most productive bank stockbrokers, they have reason to be wary of the most productive licensed bankers. The most productive licensed bankers are probably those most adept at identifying customers with low yielding deposits and converting those deposits to alternative investments.

Referrals. Similarly, bankers seeking to hold down disintermediation have been concerned about aggressive measures to refer customers to the investment sales staff. In some of our other analyses, not reported here, we have observed a decrease in referrals during periods of strong loan demand.

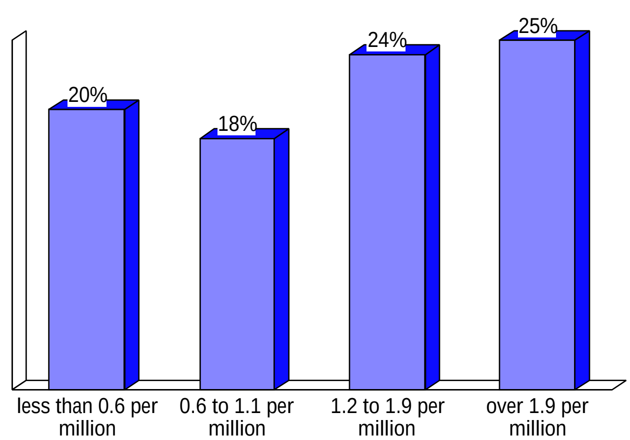
Net Disintermediation by Licensed Banker Productivity
(disintermediation net of intercepted funds in 1999)



We examined the relationship between referrals and disintermediation in the same way that we analyzed the question of which type of sales person disintermediates more. First we calculated a measure of referral penetration of the bank — referrals per year per million of bank retail deposits — using data from the *1997 Kehrer-Essex Benchmarking Study*. Then we identified the banks in each quartile of referral penetration, and compared their gross disintermediation rates. We found only a weak correlation between the generation of referrals and the extent of disintermediation.

Banks with over 1.2 referrals per year per million of retail deposits (the study median) had an average gross disintermediation rate of 24.5 percent, 5.5 percentage points higher than banks with below median referral penetration. But disintermediation does not rise uniformly as referrals increase. Banks with referral penetration in the second quartile (between 0.6 and 1.1 referrals per year per million in retail deposits) had a somewhat lower gross disintermediation rate than banks with referral penetration below 0.6 per million. Measured from the bottom quartile, tripling the number of referrals results in only a 25 percent increase in disintermediation.

Disintermediation by Referral Penetration
(gross disintermediation in 1999)



The Relative Profitability of Deposits versus Investment Sales

Is the bank better off or worse off *financially* when a customer transfers money out of a CD to invest in an annuity or mutual fund? This is a very complex issue. The banking enterprise earns a fee of about 4 to 7 percent when its investment subsidiary sells an alternative investment. The bank earns a smaller net interest margin from the CD, but the bank earns that fee every year that the customer rolls over the CD. Whether the bank makes more by retaining the CD depends on the size of the net interest margin, the rollover rate on CDs, and the factor used to estimate the present value of those future earnings.

We examined the income earned by CDs with various terms and net interest margins. We calculated the *present expected value* of the margins earned on the CDs, by calculating the present value of the future stream of net interest margins earned on the CDs, taking into account the CDs' rollover rates. For example, for a one-year CD with a 100 basis point net interest margin, we estimated how much of a deposit cohort would be rolled over after one year, after two years, etc., until the block of deposits was run off. Then we calculated the present value of that stream of net interest margins, taking into account that a dollar earned in the future is not worth as much today as a dollar earned today.

Present Expected Value of the Spread Income on CDs By Term

	Net Interest Margin (bp)			
Term	50	75	100	125
1 month	28	41	55	69
3 month	72	108	144	181
6 month	124	185	247	309
1 year	175	262	350	437
3 year	280	420	560	**700**
5 year	265	397	530	**662**
7 year	297	446	594	**743**
10 year	327	491	**654**	**818**

For purposes of an illustration, we used a rollover rate of 85 percent for CDs with terms of less than one year, 82 percent for CDs with terms of one to three years, and 54 percent for longer term CDs. (These rollover rates were taken from historical data provided by the Customer Development Corporation.) For the present value calculation, we used 15 percent to discount the future revenue stream. (That is a typical target rate of return in banking.)

As the table demonstrates, the present expected value of the net interest margin on short term CDs or CDs with very small spreads is much less than the revenue that could be earned from selling an annuity or mutual fund. The combinations of net interest margin and CD term that are expected to provide revenue greater than an annuity with a 6 percent commission are in bold face type. The present expected value of spread income from CDs with less than 100 basis points in net interest margin is never as high as the annuity commission, no matter how long the term of the CD. CDs with 100 basis points of net interest margin need to have terms of at least ten years to provide as much revenue as an annuity sale. And one-year CDs with a net interest margin of 125 basis points do not provide as much revenue, on an expected value basis, as an annuity sale.

The reader can compare the revenue from a mutual fund with a 375 basis point commission to various CDs. For example, a bank would expect to make more revenue on a present value basis from converting a maturing 3-year CD into a mutual fund if the CD had only a 50 basis point interest margin, but not if it had a 75 basis point margin.

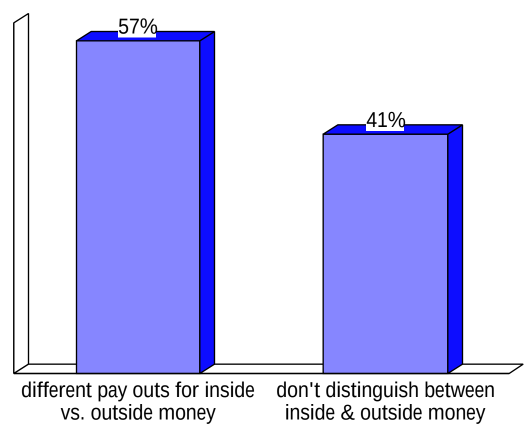
Of course, the higher the net interest margin and the longer the term of the CD, the more revenue the CD provides over its expected life. And lower discount rates would increase the present expected value of the spread income from the CD. Using this model, a bank could estimate the present expected value of its own CD portfolio, plugging in the net interest margin and rollover rate experience for CDs of each term, and utilizing the bank's target rate of return to discount future cash flows. But, as the table illustrates, the revenue from an alternative investment sale is attractive financially relative to short-term CDs, especially when spreads are compressed.

Managing Disintermediation

Regardless of the relative profitability of deposits and investment sales, a bank might want to minimize deposit disintermediation while trying to maximize investment sales.

Incentive Compensation. One approach used by some banks is to pay different sales compensation for investment sales depending on whether the customer purchases the investment with funds drawn on the bank's own deposits or on another financial intermediary. This approach is designed to encourage investment sales staff to try to find money held outside the bank to pay for investment purchases, rather than just converting the bank's deposits into alternative investments.

Effect of Incentives on Disintermediation (1997)
(gross disintermediation)



We examined the efficacy of this approach by pooling data from our *1997 Kehrer-Essex Benchmarking Study* with our *1997 Bank Investment and Insurance Services Compensation Study*, which included information on whether banks pay higher sales compensation for investment sales funded by outside deposits. The banks that provide sales incentives to not disintermediate deposits had a gross disintermediation rate of 57 percent, 16 percentage points higher than banks that do not distinguish between inside and outside money in compensating sales staff. Thus structuring investment sales compensation to discourage disintermediation might actually have the opposite effect. Deposit disintermediation is more closely tied to the competitiveness of a bank's CD rates and the performance of alternative investments than it is to how investment sales staff are compensated.

Summary of Other Measures To Contain Disintermediation. While paying lower sales compensation on sales that result in disintermediated deposits appears not to be efficacious, our analysis has pointed to several other tactics that can contain disintermediation while expanding investment sales:

- Brokers actually disintermediate less than licensed bankers. A bank that is trying to minimize the extent to which investments cannibalize deposits should not license platform bankers.

- Since there are important reasons to license bankers — including increasing investment sales at lower acquisition costs — a bank may still want to sell investments through licensed bankers. But it can contain disintermediation by having the bankers also sell mutual funds or variable annuities rather than just fixed annuities.

- Recruiting top reps will expand investment sales with only minimal disintermediating effects.

- Similarly, improving referrals to the investment sales staff will raise investment sales with little increase in deposit cannibalization.

Meeting The Customer's Needs. From the perspective of bank efforts to meet customers' changing needs at attractive rates of return on capital, the debate over the extent to which investment sales disintermediate deposits seems off somehow. It is clear that customers need to include alternative investments in their financial portfolio, and even if they did not need them many clearly want to own these products. At the same time, intermediating deposits into loans remains a core business of banking, and increasingly of other financial services companies. The information provided in this study should help banks better understand how investment sales affect deposits, and assist in creating a balanced financial services business going forward.