



# Banking on Gambling: Banks and Lottery-Linked Deposit Accounts

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## *Abstract*

Deposit accounts that provide an interest return determined by a lottery have proved to be popular around the world. From the point of view of a bank, these products are especially successful among relatively low-income customers, or in markets in which many people are outside the banking system. Below, we describe numerous examples of such accounts, and analyze their economics.

**Key words:** Randomized return, lottery, behavioral finance.

## **1. Introduction**

Banks continually search for new products to offer depositors. One product available in many countries around the world is the lottery-linked deposit account (LLDA). Their ubiquity is a testament to a popularity that transcends particular cultures and societies. The development of the Internet, and especially the development of Internet gambling, suggests that one can expect these accounts soon to be available in markets where they are not currently offered. This alone makes the LLDA worth further examination.

Governments and banks around the world have introduced savings instruments that combine savings with a lottery. The basic structure of an LLDA is simple. Typically, the bank automatically enrolls in a lottery those depositors who maintain a deposit of some specified size for some specified period in the designated accounts. Commonly, the depositor receives one “lottery ticket” or chance, each month for every X dollars he has on deposit for that month. The buyer pays for her lottery tickets by foregoing interest relative to an account that does not have the lottery feature. The lottery does not affect the principal of the deposit, but the interest rate that the holder receives each period is a random variable. The interest rate the holder actually receives could be very low—perhaps zero or only nominal, depending on the scheme’s structure—or it could be very high if the owner is lucky enough to win the grand prize.

Section 2 describes the functioning of the accounts. We first discuss the accounts from the supply side, that is, from the banks’ point of view. Then in section 3 we turn to the demand side, that is, to the depositors’ point of view. Here we relate the accounts to the

**Table 1. Lottery-linked deposit accounts (LLDAs) at Banco Bilbao Vizcaya's (BBV) subsidiaries in Latin America**

This table shows the launch date of BBV's LLDAs in several countries where the bank has introduced them, together with the total number of accounts, the total amount of deposits that the accounts have garnered, and the average value per account. Source: BBV internal document dated February 1998.

Country	Launch Date	No. of Accounts (Thousands)	Total Volume (US\$ Millions)	Vol./Acct. (US\$)
Mexico	Aug. 96	485	178	367
Colombia	Jul. 97	462	205	443
Venezuela	May. 97	697	642	921
Argentina	Dec. 97	78	232	2949

literature on risk taking and gambling. Lastly, section 4 is the conclusion and a call for further research. An Appendix provides a number of examples of LLDAs and other lottery-linked securities from both the published literature and from the authors' own (unsystematic) inquiries.

## 2. The banks' point of view

The issuers' incentive to offer the accounts or bonds is that savers like the lottery feature and reward the issuers by accepting a nominal lower return on the accounts than they would receive on an account that provided a certain return. The account holders may be accepting a bet that is unfair to them, or not. Table 1 gives some data from then Banco Bilbao Vizcaya (BBV) on the number and value of such accounts in its Latin American subsidiaries. BBV, one of the world's largest retail banks, has been successful with these accounts in several countries.

The lottery feature may simply be a marketing device that differentiates the account from other types of savings instruments. Equally, the accounts may lower the offering bank's cost of funds. When the lottery is not a "fair game" that is, when the expected value of a ticket is less than the foregone interest, the bank gains. Discussions with executives at Banco Santander and BBV confirm that the LLDAs are a cheaper source of funds than regular savings accounts, even after one takes into account administrative costs and prizes.<sup>1</sup> One respondent estimated that the bank's cost of funds was from a quarter to a sixth of that compared with a regular time deposit account. This appears high given our calculations below.

In table 2 we present some details for the accounts offered by Banco Río de La Plata, Banco Santander Central Hispano's subsidiary in Argentina, and by Banco Francés del Río de La Plata, Banco Bilbao Vizcaya Argentaria's subsidiary, also in Argentina. We have more information for Bank Río than we do for Banco Francés.

Banco Río's lottery-linked accounts participate in a daily lottery for \$20,000 and a monthly lottery for \$222,000 (about 20 × average per capita GDP of U.S.\$11,000 at PPP in 1998). Each U.S.\$200 on deposit gives the depositor one chance or "ticket" in the

**Table 2. Details of the lottery-linked deposit accounts (LLDAs) offered by the Argentine subsidiaries of two Spanish banks**

This table displays the terms offered by the two banks on their LLDAs and on their regular savings accounts. Comparing the expected value of \$1 in an LLDA with the yield on a regular savings account indicates that LLDAs do not provide an interest cost savings to the banks that offer them. Daily prizes are per business day (i.e., MTWTF). For the daily prize, the market value of a new car is \$25,000. Total prizes for a month of 22 business days also include a number of other monthly prizes in the form of consumer goods with a per item value of \$500–1000. We do not include these prizes in our calculations. Sources: BSCH Banco Río and BBV Banco Francés.

	BSCH Banco Río	BBV Banco Francés
Annual interest—LLDA	1%	1%
Daily prize	\$20,000	New car
Monthly prize	\$222,000	\$250,000
Total prizes for month of 22 business days	\$662,000	\$800,000
Size of a deposit per lottery “ticket”.	\$200	\$250
Average daily number of chances	3,000,000	NA
Average daily amount in the LLDAs	\$660,000,000	NA
Effective monthly (annual) interest cost of the prizes	0.1% (1.2%)	0.13% (1.6%)
Bank’s total cost (interest + prize) of an LLDA p.a.	2.2%	2.6%
Depositor’s total return (interest + prize) on an LLDA p.a.	2.3%	2.8%
Depositor’s return on a regular savings account p.a.	2%	1.5%

lottery. A well-known radio station announces the winners each day at 12:15 p.m. BBV Banco Francés’ lottery offers cars, household appliances and other similar goods as prizes, as well as cash. Banco Francés offers one chance per \$250 in deposits and a top prize each month of \$250,000 (about  $23 \times$  average per capita GDP). It announces its results on a popular evening TV program. Both banks include as part of their LLDA programs phone numbers that depositors may call to determine the number of chances for which they qualify, the odds of winning per chance, and the previous winning number.

For the bank offering the LLDA, the monetary cost is deterministic, not random, and consists of three components: administrative costs, an explicit interest cost, and the lottery payout. Both regular deposit accounts and LLDAs require administration and we have no sense that the administrative costs are higher for LLDAs than for regular accounts. The LLDAs are interest bearing, but at a rate that is one-half (Banco Río) or two-thirds (Banco Francés) that of regular savings deposits. As for the lottery component, the bank announces, in advance, a payout that is independent of the amount in qualifying accounts. Unlike the situation with many state Lotto games, all prizes are awarded and there is no rollover. Over time the banks can adjust the number and value of the prizes to the number of qualifying accounts to maintain a target expected value. Competition between banks should lead to at least periodic adjustment.

Banco Río reports that in recent months, the number of chances (“tickets”) has averaged about 3,000,000, implying that the amount of money in its LLDAs was at least \$600,000,000. In addition, there is about another 10% or \$60,000,000 in the accounts in the form of money that is leftover, that is modulo a multiple of \$200. With a monthly payout of about \$662,000, the expected value of a deposit is 0.1% per month, or about 1.2% per annum, plus the promised interest of 1% per annum.

Banco Río has about \$1.5 billion in savings deposits, so money in LLDAs represents about 40% of such deposits. Banco Francés has a similar amount in savings deposits. If 40% of this is in LLDAs, the lottery feature is worth about 0.13% per month, or about 1.6% per annum, plus the promised interest of 1% per annum.

LLDAs therefore appear a more expensive source of funds than savings accounts without the lottery feature. However, the bank does save on the cost of deposit insurance; the accounts do not qualify for deposit insurance, unlike regular savings deposits. More importantly, we do not know what interest rate the banks would have to offer to attract an equivalent amount in new deposits. As far as interest costs alone are concerned, LLDAs remain cheaper than the interbank market. Substituting bought funds for deposits in LLDAs would cost the banks at least U.S.\$ LIBOR (say 5–6% per annum) plus a premium of several hundred basis points. (Apart from credit issues, the market is charging Argentine banks a premium over U.S.\$ LIBOR to cover the risk that Argentina will abrogate the Peso–U.S.\$ link.)

Offering LLDAs is subject to both production and consumption economies of scale. The bank has to invest in the computer program to assign the chances to accounts, and to pick the winning account. It also has to advertise the accounts. These investments are a fixed cost that does not increase with the number of accounts the bank holds. There may also be another benefit to scale. Small banks cannot match the large banks in terms of the frequency and the richness of the prizes. Clotfelter and Cook (1990) and Cook and Clotfelter (1990) point out that this matters to the demand for a lottery and has resulted in several small U.S. states banding together to offer joint lotteries. Although a small bank with its less frequent prizes may match a larger bank in terms of the expected value of its accounts, it may suffer from a marketing disadvantage. As Kahneman and Tversky (1973) have discovered, people often predict by representativeness and over-estimate the probability of rare, salient events. A bank that advertises winners more frequently than its competitors may benefit from such effects. Lastly, the larger bank can more readily increase the skewness of its payouts, an issue we will return to shortly.

Banks offering LLDAs have to know how to market the accounts. This involves not just advertising, but also the management of the prizes in terms of their structure and composition. The Spanish bankers with whom we spoke reported that periodically, their banks would have to change the prizes to maintain customers' interest.

### 3. The depositors' point of view

The suppliers' cost is the demanders' benefit and the suppliers' benefit is the demanders' cost. For the accounts at Banco Río, our crude estimates put the expected value per \$200 in deposits at about \$0.38 per month or 0.2% (2.3% annually), made up of \$0.21 in expected winnings and \$0.17 in interest. Two phone calls on different days to Banco Río's information number yielded an average probability of winning per chance of 0.0000003185. (This implies that the number of outstanding chances averaged 3,141,197. This is consistent with the information on the total amounts in the LLDAs.)

For Banco Francés our even cruder estimates put the expected value per \$250 in

deposits at about \$0.47 per month or 0.2% (2.8% annually), made up of \$0.26 in expected winnings and \$0.21 in interest.

We know that the LLDAs have an expected value that is greater than the 1% or 0.5% interest foregone. However, we are also comparing an uninsured account with an insured account. Note, there is no issue of a risk premium; finance theory has it that as the randomized returns on the LLDAs do not co-vary with the market (or priced factors), there is no need for a risk premium. Furthermore, Camerer and Kunreuther (1989, p. 571) suggest that “People may overestimate the chances of winning a lottery because of the excitement of winning . . .” This argument would actually suggest that the banks could offer a less than fair bet, like all state lotteries (Cook and Clotfelter, 1990). Even when the LLDA offers a return comparable to that on a savings account without the lottery feature, the question remains: what are depositors buying?

The literature on gambling suggests that the payoff structure of the LLDAs should have certain characteristics—skewed returns and mechanisms to reduce holders’ fatigue from the low likelihood of winning—and this is in fact what we observe. Lotteries generally deliver a large number of small prizes and a small number of large prizes (see, for example, Shapira and Venezia, 1992), as do the LLDAs. The large prizes create skewness in returns. The frequent small prizes combat account holders’ fatigue by reinforcing their continued interest despite the rarity of big wins. This payoff structure is also consistent with Quiggin’s (1991) model, which takes as its starting point an assumption that bettors care about how their wealth compares to that of others (rank-dependent utility). Robson (1996) makes an argument that he bases on biological evolution for utility functions that have relative success as an argument of the function. In his model, those individuals who take fair bets will take fair bets that involve a high probability of small losses with a small probability of large gains. Similarly, Golec and Tamorkin (1998) find that bettors at the racetrack may value skewness, that is, the possibility of a big win, rather than variance. Frank’s recent book *Luxury Fever* (1999), makes a strong empirical case for the existence of individual utility functions that take relative consumption as an argument. Lastly, Brenner’s (1986) analysis of Canadian data shows that the people who buy lottery tickets are likely to be persons who see the lottery as offering them an opportunity of recovery after some form of sudden adversity has closed all other avenues to success.

An alternative, albeit not mutually exclusive hypothesis is Ng (1975) and McCaffrey’s (1994) argument that instead of relative rank, lottery buyers are seeking large sums because of indivisibilities in consumption. Obviously, cars, houses, TVs and so forth come in units. However, the argument requires both imperfections in credit markets leading to constraints on the ability to borrow, and low substitutability between goods that would undermine the discreteness of the consumption good. Thus a new car and a used car would have to be less substitutable than a demand for transportation alone would suggest. Interestingly, the LLDAs are consistent with the lump-sum argument. As one can see from the Appendix, many LLDAs offer prizes that are consumer durables such as apartments, cars, TVs, and the like.

It is also clear that in countries with under-developed consumer credit, lump-sum considerations matter. For instance, one commonly finds ROSCAs (rotating savings and credit associations) in poor countries (Morduch, 1999; Biggart, 2000). These provide lump sums through the deterministic mechanism of all participants contributing to the pot each

month with each participant drawing the pot in turn (usually by lot) until all have drawn. However, the need to keep membership limited as part of the enforcement mechanism limits the size of the lump sum that ROSCAs can mobilize.

If depositors in LLDAs are buying skewness or large lump sums, this demand combined with a bounded top prize, leads one to expect that the usual LLDAs are likely to be an inferior good. That is, wealthier people will spend a lower proportion of their wealth on lottery-linked accounts than will poorer people (the income elasticity of demand is probably less than 1). This conjecture is consistent with evidence on lottery participation. Brown et al. (1992) find that the poor commit a greater portion of their income to lotteries though the middle class provides the greatest total amount. Interestingly, they found that education generally is the best predictor of the amount of an individual's propensity to play the lottery and correlates negatively with the propensity to play. The reason for the correlation is an open question: education may proxy for class (a non-monetary source of relative status), wealth, an improved understanding of probability, or socialization to values that de-emphasize relative wealth.

Lastly, the LLDAs have other psychologically interesting features. For instance, on the one hand, paying for one's ticket by foregoing interest means that once one has opened the account one does not have to do anything further; the participant does not have to reach into her purse each month to pay for her ticket for that month. The evidence in Kahneman and Tversky (1979) on individuals' asymmetric valuation of gains and losses suggests that this may be an attractive characteristic. On the other hand, relative to some government lotteries, the LLDAs have the disadvantage that depositors cannot choose the number on their ticket. As Farrell et al. (2000) show, this is an important feature as participants apparently value the opportunity to buy "lucky" numbers.<sup>2</sup> Similarly, Clotfelter and Cook (1991) found that many players believe that they can improve their chances of winning by adjusting their bets to reflect recent winning numbers, or signs from dreams or events in their lives. However, this leads to bunching of bets, making tickets in lotteries that permit selection much harder to value than tickets in an LLDA.

#### **4. Conclusion**

Our limited evidence from one country raises the hypothesis that competition between banks results in the LLDAs offering returns comparable to those on accounts without the lottery feature. LLDAs thus appear to be more a marketing device than a source of deposits cheaper than savings deposits, though both sorts of deposits remain cheaper (in terms of interest rates) than funds bought on the interbank market.

The bankers we spoke with believe that LLDAs are especially successful with low-income depositors, and in cases where there are lots of people outside the banking system. The Spanish banks believe, though no systematic studies exist, that the LLDAs enabled them to grow in those Latin American countries where they introduced the accounts by attracting new customers as well as stealing customers from other banks. The examples we cite in the Appendix below are consistent with this hypothesis that the LLDAs are products that grow the banking market in countries with low ratios of deposits to GDP, or with few accounts per capita. The accounts apparently draw in customers for whom savings plus a

gamble has a higher utility than either holding savings in cash or consumer durables, or possibly immediate consumption. Unfortunately, we know neither the scale nor the source of any increase in measured savings.

LLDAs are ubiquitous and one can expect that they will become even more available through Internet banking. Currently, access to the Internet probably correlates negatively with interest in such accounts as owners of computers tend to be among society's better off. Still, this is changing. Furthermore, the accounts have proved popular in developing countries. As such, they merit further research. Useful directions include the following.

Does the introduction of LLDAs simply cannibalize existing savings or do the accounts generate new savings? We know that the accounts are popular but there are no studies that look at the effects on total savings.

Does the introduction of LLDAs cannibalize government-sponsored lotteries? As a first approximation one can expect that these private lotteries are closer to a fair bet than are the state lotteries. Walker (1998) finds that demand for lotteries is quite price elastic; being closer to a fair bet, LLDAs are cheaper to the participant and so one can expect both substitution and an increase in the market for gambling.

Do LLDAs decrease or increase the harm from gambling to susceptible individuals? The harm from gambling comes from losing so bets that are closer to fair do less harm than do state-sponsored lotteries. However, any increase in the number of problem gamblers attributable to the introduction of LLDAs (the slippery slope argument) obviously reduces this benefit.

Regardless of one's opinion of gambling and the moral appropriateness of LLDAs as a product (Stearns and Borna, 1995), LLDAs exist and are likely to become even more widespread. They therefore merit further investigation.

### **Appendix: Lottery-linked bank accounts around the world**

Lottery-linked bank accounts are not a new idea. They represent a subset of the range of actual and hypothetical securities with randomized payoffs. For instance, several authors (Goodhart, 1986; Cowen and Kroszner, 1994) have suggested that the issuers of currency could pay interest on currency through a lottery. That is, the issuer would periodically announce that anyone holding a note with certain (randomly selected) serial numbers should turn it in for a premium above the face value. We are not aware of any examples of such currency, but we have identified a number of examples of securities with payoffs determined by lot, of which the first set below involves bonds. (We do not include the numerous examples of callable bonds where the issuer periodically calls in a number of bonds, picked at random, for redemption at a pre-determined strike price.) The second set of examples below involves bank accounts. The order of presentation is roughly historical.

*UK and France.* Weir (1989) and Weir and Velde (1992) report that in the 17th and 18th centuries, the governments of England and France issued various securities with what the authors call "externally randomized returns." Instead of paying a set rate of interest, the government periodically paid a premium to a subset of the holders of the securities—a subset determined by lot on each occasion. The U.K. still has Premium Savings Bonds that

pay 3.75% p.a. (as of 1 March 2000), automatically enroll the holder in a monthly lottery with prizes ranging from £50 to £1,000,000, and are free of all U.K. income tax and capital gains tax. The minimum investment per owner is £100, the maximum is £20,000, and the bonds are not transferable.

*U.S.* Jennings et al. (1988) report that Alexander Hamilton proposed that the U.S. introduce bonds with a randomized return. His objective was to find ways to fund the U.S. national debt. Calomiris (1991) suggests that the U.S. government used such securities when issuing debt abroad in the 18th century.

*Sweden.* Green and Rydqvist (1997) report that since 1918, the Swedish government has offered bonds that have coupon payments determined by lottery.

These bond market examples, except perhaps for the U.K.'s premium bonds, may represent a targeting of a different clientele than that which state lotteries and LLDAs target. Smith and Villamil (1998) propose a model that suggests that governments would issue lottery-linked bonds to achieve an optimal sharing of the burden of large budget deficits in the face of private information about access to assets. They argue that their argument implies that one should not often observe explicit randomization in private contracts. However, as we show below, LLDAs are common form of private contracts with randomized returns.

LLDAs have appeared in a number of countries and all our examples are from the second half of the 20th century. LLDAs may have existed earlier; we just have not uncovered any examples in the economics literature. Both private and government-owned institutions have offered the accounts.

*Japan.* Minabe (1975) reports that the Japanese government offered LLDAs after World War II, probably in its postal savings system though he does not make this clear. LLDAs initially represented 82% of all time deposits and still represented 75% in 1962. Interestingly, Minabe (1975) reports that when the Ministry of Finance originally proposed LLDAs, the opposition criticized the idea. The opposition argued that LLDAs would incite "the gambling spirit of the people and would have a poor educational effect." In response, the MOF constructed the lottery so that depositors would get at least 3% p.a.; furthermore, it ensured that the lottery would have an expected value of 3.75%, which was the statutory maximum interest rate payable on time deposits. By 1975, however, the popularity of the accounts had apparently dwindled almost to nothing and the government ended the program.

However, in November 1994, the Jonan Shinkin Bank, a small cooperative bank in Tokyo, introduced lottery-linked one-year time deposits despite Ministry of Finance (MOF) disapproval. The MOF was unable to block the introduction as deregulation of banking had limited its powers. The National Association of Shinkin Banks had earlier that year formulated a rule against offering cash premiums to depositors and it condemned the bank for disobeying the rules. However, Jonan Shinkin attracted some ¥en30 billion (US\$ 305 million) into the bank in a matter of days (Hulme, 1995). Thirteen other shinkin banks immediately took up the idea.

*Germany.* In 1952, savings banks started to offer *premiensparen* accounts. Since 1959 these have been known as *PS Sparen und Gewinnen* or *gewinnsparen* accounts (Distelrath, 1982). In these accounts, depositors can allocate any new inflow into the account between savings in the bank offering the account, and purchases of lottery tickets from the regional association of savings banks. Inflows can take the form of a standing order for a monthly transfer from a checking account to the *gewinnsparen* account, with the depositor designating his or her allocation. Depositors who have participated in every monthly lottery for a year qualify for a bonus free ticket. Odds differ by region because participation differs by region. Prizes range between DM25,000 and DM100,000. Winnings are subject to tax and the regional association must allocate a set amount of the premium income to charitable causes.

Krumnow and Gramlich (2000) report that *gewinnsparen* were originally meant to serve to reanimate savings activities in a context where German savers had lost most of their savings in banks twice within 25 years. It is not clear that the accounts helped to generate a steady flow of savings, and now they are only a marketing device.

*Turkey.* Cosar (1999) mentions that Demirbank offered LLDAs in the 1950s.

*Kenya.* Since 1978 the Kenya Post Office Savings Bank has offered a Premium Bond Scheme based on bearer bonds in denominations of Ksh 10 (U.S.\$ 0.14) and Ksh 20. Apparently the scheme met with great customer enthusiasm and the bank is considering offering bonds with denominations of Ksh 500–10,000 (Wright, 1999).

*Indonesia.* In 1986, Bank Rakyat Indonesia (BRI) introduced the SIMPEDES program as a way of mobilizing deposits (Morduch, 1999). BRI is a bank that specializes in microfinance lending to “better off” poor and non-poor households. While apparently quite successful on the loan side, the bank had less success in garnering deposits until it introduced the SIMPEDES accounts; these permit unlimited withdrawals and offer a lottery. Interest rates range from zero to 1.25% per month for large (over U.S.\$100 equivalent) deposits, but even for large deposits are barely above the rate of inflation. Even so, between 1988 and December 1996, the number of depositors rose from over four million households to over 16 million. The average depositor appears less well-off than the average borrower. Morduch (1999) reports that the accounts give BRI a relatively cheap source of funds for its lending while permitting households to build up their assets and smooth consumption.

*Spain.* Until the late 1980s, the banking sector in Spain was a cozy cartel. Starting in 1990, the competitive environment changed. Banco Santander, then Spain’s second largest bank, set off a war for deposits among the large banks by offering interest on current accounts. (It did so in response to the initiatives of foreign banks’ Spanish subsidiaries.) BBV, its chief rival, introduced its *el libretón*, an account that offered lower interest rates than Santander’s *supercuenta*, but which enrolled their owners in a periodic lottery with prizes such as cars, trips, encyclopedias, and cash. Santander and other Spanish banks then introduced their own LLDAs. Later, when the Spanish banks entered retail banking in Latin America, they brought the idea of LLDAs with them.

*Mexico.* In August 1996, BBV Probursa, introduced the *libretón*, a move that Banco Santander México matched. BBV Probursa reports that its share of Mexican deposits grew from 2.5% in 1996 to 8% in 1997, due both to the LLDAs and other competitive moves. Locally-owned banks such as Banco Nacional de Mexico, Inverlat, and perhaps others also have since offered LLDAs.

*Argentina.* Banco Río, Banco Santander's subsidiary, introduced the accounts on a Monday in December 1997; BBV Banco Francés, followed that Friday. Both Banco Río and BBV Banco Francés report sharp increases of about 20% in their deposit and customer base within six months of the introduction of these products. Banco Francés reports that the accounts raised the bank's market share of Argentine deposits from 7% to 10% within three months. When the Spanish banks introduced the accounts the local banks disapproved. As of mid-1998, the local banks had not introduced similar accounts although some local executives report that they considered doing so. Still, the lack of response may have represented nothing more than a reaction lag.

*Pakistan.* In May 1998, Pakistan and India conducted nuclear tests. The U.S. responded by imposing sanctions on both countries. The government of Pakistan, concerned about possible balance-of-payments consequences, froze foreign currency accounts and allowed withdrawals only in rupees. The result was a huge liquidity crunch as depositors withdrew their funds. The banks warned the government that if they could not use innovative schemes then the banks would not have the funds to lend to the government, let alone industry. The government authorized the offering of LLDAs in July of 1998.

Habib Bank, government-owned and the largest bank in Pakistan, launched its *crore-patti* (multi-millionaire) in which the grand prize is R10 million (approx. U.S.\$217,000; about 130 × average per capita GDP of U.S.\$1700 at 1998/99 PPP). Muslim Commercial Bank, the fourth largest bank, launched its *maala-maal* account. At Bankers Equity term deposits of three, six and 12 months carry interest rates of as much as 10% p.a. (for the 12-month deposit) plus they qualify the depositor for participation in a monthly prize drawing. United Bank, also government-owned and Habib Bank's main rival, offers depositors who maintain a minimum deposit throughout the month a chance at a prize of a new car. It reportedly gained nearly R 1.5 billion in deposits within two months. Other banks offer cash, motorcycles, televisions, computers and electronic gadgets.

The banks advertised the new accounts, which proved to be an instant success. Habib Bank reports that the accounts brought in some R10 bn (U.S.\$217,000,000) in deposits between July and January 1999. The much smaller bank, Bankers Equity, reports that its lottery-linked deposit scheme drew R1 billion in new accounts.

In May 1999, the Council on Islamic Ideology, the highest Islamic council in Pakistan, ruled that bank lottery schemes were un-Islamic. The Pakistani government announced that it would not challenge the ruling. On 23 December 1999, Pakistan's Supreme Court upheld a 1991 ruling by the Federal Shariat (Islamic Law) Court and ordered the Government to pass the necessary laws to phase in an interest-free banking and financial system by the year 2001.

The grounds for declaring the accounts un-Islamic were that the prizes are *de facto* interest. Many if not all interpretations of the Koran do not distinguish between interest

and usury; hence they take the prohibition on usury as forbidding interest (Aggarwal and Yousef, 2000). The courts could have condemned the accounts on the grounds that the Koran also prohibits gambling or speculation but did not.

The State Bank of Pakistan has now ordered the banks to stop offering the products within Pakistan but permits them to offer them to non-residents remitting funds to Pakistan. However, the major sources of remittances are Pakistani residents of Saudi Arabia, the U.A.E. and the U.K. The Pakistani banks have no offices in Saudi Arabia and banks are prohibited from advertising such schemes in the U.K. in competition with the U.K.'s premium bond scheme; as a result, the banks apparently are stopping altogether.

### Acknowledgments

We would like to thank Hans-Peter Burghof, Witold Henisz, Kenneth Koford, Felix Oberholzer-Gee and Mark Zbaracki for helpful comments on an earlier draft. We would also like to thank Citibank whose generous grant to the Wharton School supported the research of which this is a by-product. In addition, numerous regulators and bankers gave generously of their time to answer questions. Lastly, L. Milani, C. Muñoz, A. Ripert, I. Corominas, and P. Freire provided able research and logistical support. Still, the analysis and opinions in this paper are ours.

### Notes

1. We conducted interviews with bankers and regulators in Argentina, Chile, Mexico and Spain between May and July of 1998. Our interviews focused on the entry of the Spanish banks in Latin America. That led to the discussion of LLDA's.
2. Langer (1975) and Langer and Roth (1975) find that many people do not fully believe in chance but rather believe that they can influence the outcome through skill or effort.

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