



# Playing with Fire

**Firms across the spectrum of emerging markets entered into exotic derivative contracts that caused massive losses**

*Randall Dodd*

**T**HE NAMES sound as if they were toys or children's stories—KIKO in Korea, TARN in Brazil and other countries. But they are part of a business model based on the use—or misuse—of exotic derivatives whose results are anything but imaginary. Transactions in these derivatives have resulted in massive losses that fueled currency market panics and helped transmit the financial crisis to emerging markets. The very real consequences led the head of Poland's business roundtable to call them a “product from hell.”

The first reported losses were at private firms in the tradable goods sector. Most of the firms were exporters that appeared to be using the derivatives to hedge against ill effects if their domestic currency were to appreciate. But when the currencies depreciated instead and the losses were disclosed, foreign exchange markets reeled as the firms had to scramble and sell local currency for dollars to cover their losses. The direct losses have been deep and wide. An estimated 50,000 firms in the emerging market world have been affected. This includes 10 percent of Indonesia's exporters and 571 of Korea's small and medium-size exporters. Losses in Brazil are estimated at \$28 billion, in Indonesia at \$3 billion, and in Mexico and Poland at \$5 billion each. Not all the losses are private. Sri Lanka's publicly owned Ceylon Petroleum Company lost \$600 million, and China's Citic Pacific suffered \$2.4 billion in losses.

The phenomenon appears to be widespread. Losses were also reported by exporters and other firms in Hong Kong SAR, India, and Malaysia. Firms in Brazil and Mexico also suffered large losses (see “A Hedge, Not a Bet,” in this issue).

## **A subject of debate**

Policymakers in many countries have been engaged in often acrimonious debates over how to deal with benignly named KIKOs and TARNs—and other exotic derivatives (see box).

There are two fundamental questions at the core of the debate: Did the firms intend to hedge—that is, insulate themselves from currency movements—or speculate? And did banks, acting as derivatives dealers, merely meet the needs of their clients or did they engage in deceptive trading practices?

It is nearly impossible to establish the mindset of customers or dealers. So the debate has created more heat than light. This article seeks to describe these derivatives, analyze their appropriateness for hedging and speculation, and suggest some policy measures to help prevent their misuse.

The public interest concern surrounding these exotic financial products arose because their impact on the respective emerging market economies was greater than the direct impact on the firms involved. Once the local currency began to depreciate sufficiently to generate big losses for KIKO or TARN investors, the reports of those losses roiled the local currency markets and amplified selling pressures. The lack of transparency in the market for these exotic derivatives meant that currency markets could not know either the amounts of the outstanding transactions, who held them, or the size of the potential losses. Uncertainty led to fear, then to panic that fed on itself. Fears further depressed currency values, which generated larger losses on the derivatives.

## **Snappy but potent**

Derivatives sellers often give snappy names to exotic derivatives as part of their marketing effort. KIKO stands for “knock-in knock-out” option—“knock out” representing the point at which further investor gains are cancelled. TARN stands for “target redemption note,” signifying that further gains would end after they reached a “target redemption” amount. TARN is also often used to refer to a forward or swap. Other comparable derivatives include Snowball and Accumulator, whose names evoke their potential for accumulating extra gains (and losses).

Investor confidence also took a hit. Emerging equity market prices tumbled, and credit spreads spiked. Foreign investors withdrew capital, and the prospects for refinancing maturing foreign currency debts were thrown into question. The global financial crisis that began in the U.S. housing market arrived in emerging market economies.

### First appearance

The problems came to light last year as seemingly unrelated instances of nonfinancial firms getting into trouble with their currency hedges, which are transactions designed to offset losses that occur when the value of their export earnings falls relative to that of their local currency (which they must use to pay production costs). Currency hedges are especially important to firms in export and import sectors because they earn or pay in currencies other than their domestic currencies and want to protect their income in their home currencies. In most cases, these exotic hedges involved an exporter taking a long position in its country's currency—that is, buying a derivative contract that anticipates a rise in the value of the domestic currency, usually vis-à-vis the dollar.

But a pattern quickly emerged. In at least seven Asian countries—China, India, Indonesia, Japan, Korea, Malaysia, and Sri Lanka—plus Brazil, Mexico, and Poland, the losses arose from very similar exotic derivative contracts traded between sophisticated derivatives dealers and their often less sophisticated nonfinancial corporate customers. In Korea, these derivatives went by the name KIKO (knock-in, knock-out); in other countries they were called TARNs (target redemption forwards, swaps, or notes), callable forwards, or dual currency deposits. Currency coupon swaps was the label used in Japan.

What made the losses alarming was their size. Disclosed losses were excessive relative to reasonable estimates of firms' export revenues, and some firms were quickly forced into filing for bankruptcy protection. This was not consistent with the outcomes from normal hedging activities. Instead, the mounting losses generated financial policy firestorms—they became scandals.

### What were they?

Although the names varied from country to country, the basic economic structure of KIKO- and TARN-like transactions was the same.

- The derivative provided a long position—that is, one in which the investor gains from an increase in the value of the underlying currency. The position was usually in the local currency, although in Sri Lanka the transactions were in crude oil and in Japan in Australian dollars.

- The derivative generated monthly payments for a period of one or sometimes two years. A KIKO structure used long call options (giving the buyer the right to buy the currency at a certain price over a certain period of time) and short put options (granting the right to sell). That created the economic equivalent of a futures or forward contract—the investor gains from an upward movement in the underlying price and losses from a downward movement.

- Potential gains on the transaction were capped or limited. In some cases it was a so-called knock-out provision that canceled the monthly payment if the foreign currency appreciated beyond a specified exchange rate, while in other cases the contract would terminate if the accrual of gains reached a target amount.

- Potential losses were not limited, and indeed the derivatives were structured in such a way that the losses would occur at a rate that was usually twice as fast as the decline in the underlying exchange rate or reference price.

- The initial cost or premium to enter into these transactions was zero.

### Proper debate

It is hard to know whether the nonfinancial firms intended to hedge against further strengthening of their currency or merely to speculate. It is also hard to know how thoroughly they understood the risk-return profile of these transactions. It is similarly hard to ascertain whether the derivatives dealers offering these transactions were meeting the demands of their clients or taking advantage of them.

Whatever the motivations, the outcome was clear, as was the economic character of these contracts. These exotic derivatives were inappropriate for either hedging or speculating, and no knowledgeable investor would be likely to enter into these contracts intentionally. The policy debate should shift from trying to discern the mindset of derivatives traders and investors to discussing how best to ensure that appropriate derivatives are indeed used for hedging, that hedgers are protected from abusive trading practices, and that speculative trading is restricted to “qualified” firms and individuals.

These exotic derivatives are not appropriate for hedging because they do not closely match the firms' existing risk exposures. Although the firms do need to hedge against an appreciation in the local currency, the KIKO and TARN instruments do not function as a hedge if the currency appreciates enough to “knock out” payments or trigger redemption of the contracts. Moreover, an exporter's potential gains from a currency depreciation—because their products become more competitive—are not matched by the doubling of the rate of losses from a depreciation.

Nor are such derivatives appropriate for firms that are not capable of absorbing the possible hit arising from the doubling of potential losses from currency depreciation. The resulting bankruptcies suggest this was the case. A fundamental principle of suitability is that the investor should be capable of absorbing potential losses.

Moreover, even if firms in the tradable goods sector intended to speculate, these derivatives were far from the best instruments. Either a currency future or a standard forward or swap would offer the same or better upside potential, while not exposing the speculator to doubled downside risk.

If the KIKOs and TARNs were not suitable for hedging and not the best alternative for speculating, why were they traded in such large quantities? One hypothesis is that the investors were either unsophisticated or that they were not informed or knowledgeable of the risks. Indeed, the international

financial markets had been benign for so long that investors in many markets began to underestimate certain risks. And the nonfinancial firms were presumably less sophisticated than the major banks offering these trades.

Another hypothesis is that investors were sometimes pressured into the contracts by banks as a condition for rolling over their loans. Some emerging market financial authorities, in interviews with the author, said that investors complained to them of bank pressure when the investors were refinancing loans. Yet one other explanation for the popularity of the derivatives is that the KIKOs and TARNs were priced in a way that attracted investors to the higher risks because the exotic derivatives offered exchange rates that were better than those prevailing in the market for standard forwards and options. This last point implies that investors were somewhat aware of the products and their risks. However, it does not follow that such exotic investments were their best choice. If investors knowingly accepted that risk-return trade-off, it would amount to a dangerously inefficient trade in which nonfinancial firms were selling insurance against large amounts of extreme risks to more sophisticated financial firms.

### What regulators should do

There are substantial incentives for firms to hedge, and there would be more actual hedging activities were firms not afraid of being abused or defrauded. Hedging would not have generated the losses that have made these exotic derivative transactions so scandalous across emerging markets. To promote more

hedging and to help avoid a repetition of recent losses and disruptions to the foreign exchange markets caused by these exotic investments, there are measures that can be taken:

- At a national level, investor protection laws and anti-fraud provisions should be clarified and strengthened to discourage the use of inappropriate derivative transactions.
- Reporting requirements for derivative transactions should be established. Reporting price and other transaction data for derivatives would make the market more transparent and would endow national and multinational surveillance authorities with greater capability to detect potential problems before they escalate.
- The introduction of new and complex derivatives, or at least their use by firms other than qualified speculators, should be regulated through the use of either “positive” lists of acceptable financial instruments or “negative” lists of prohibited ones.
- Multilateral surveillance is needed to monitor markets globally and, among other functions, identify patterns of market misconduct and trading abuses such as occurred with KIKOs and TARNs. The authority, through its established relationships with national supervisory authorities, should be capable of promptly notifying them of alarming or suspicious developments. As a multinational body, the IMF could perform this task and already possesses some of the necessary resources and formal channels of cooperation among member countries. ■

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