Wall Street Journal, November 3, 2008

The Father of Portfolio Theory on the Crisis: Harry Markowitz says valuation is the critical step

By L. GORDON CROVITZ

In the early 1950s, when young Harry Markowitz was looking for an area of economics to pursue, a chance encounter with a stockbroker in Chicago led him to apply a new logic about risk to what had been an investment industry based on touting individual stocks. He revolutionized the investing world by showing how to create diversified portfolios that reduce risk and maximize return.

Our current credit crisis arose from an imbalance of risk and return in portfolios of mortgage-backed and other debt securities, so it seems timely to ask the father of modern finance what went wrong and what to do about it.

Now 81 and still teaching and advising funds, Mr. Markowitz has good news and bad news. The bad news is that bailouts to restore liquidity aren't addressing the real problem. The good news is that once we have the information to measure the losses of bad risk-taking, markets will recover.

Mr. Markowitz doesn't excuse the financial engineers who bundled complex mortgage-based and other securities. They violated the first principle of his portfolio theory. "Diversifying sufficiently among uncorrelated risks can reduce portfolio risk toward zero," he says in an interview. "But financial engineers should know that's not true of a portfolio of correlated risks."

In traditional Markowitz-inspired investing, such as mutual funds and index funds, there is a discipline around variables such as asset classes and models of covariance. In contrast, collateralized mortgage obligations and related securities had no such discipline. These risks sank together. "Selling people what sellers and buyers don't understand," he says with understatement, "is not a good thing."

In a now-famous paper on portfolio selection in the Journal of Finance in 1952, Mr. Markowitz wrote that risks that are not correlated with one another work best, while investments that move together -- owning both Ford and GM -- are riskier. This idea, which seems obvious now, was so novel then that when Milton Friedman reviewed Mr. Markowitz's University of Chicago Ph.D. dissertation, he half-joked it couldn't lead to a degree in economics because the topic was not economics. Mr. Markowitz got the degree and in 1990 shared the Nobel Prize in economics for portfolio theory.

As with all new information tools at our disposal, applying portfolio theory to investing entails its share of trial and error. Mr. Markowitz admits some people might object to asking him how to repair the credit crisis. "You, Harry Markowitz, brought math into the investment process," he imagines some people thinking. "It is fancy math that brought on this crisis. What makes you think now that you can solve it?"

He draws a line between his portfolio theory and its later misapplication. "Not all financial engineering is always bad," he says, "but the layers of financially engineered products of recent years, combined with high levels of leverage, have proved to be too much of a good thing." In contrast, classic investment portfolios such as mutual funds and index funds continue to reduce risk.

In an essay recently posted on the Web site of Index Funds Advisors titled "What to Do About the Financial Transparency Crisis," Mr. Markowitz calls for urgency in addressing the underlying problem of mismatched securities. So long as there is continued "obscurity of billions of dollars of financial instruments," we run the risk of Japan-style stagnation. Banks there, with the support of the Ministry of Finance, refused to mark bad debts to market for a decade.

"Just as with all securities, the fundamental exercise of the analysis and understanding of the trade-off between risk and return has no shortcuts," Mr. Markowitz says. "Arbitrarily assigning expected returns absent an understanding of the risks of the securities is precisely how the economy arrived at this point."

Mr. Markowitz reckons it could take a year before we have the transparency we need. Assessing the value of mortgage-backed securities requires scrutinizing mortgages down to the level of individual ZIP Codes. "The valuation process will take as long as it takes, but it is the primary step toward effectively utilizing the very controversial bailout and avoiding the structural problem of a stagnant economy."

How to avoid more such crises? Politicians need to learn a lesson. "If the choice is requiring mortgages for people who don't qualify or keeping the banking system sound, we should learn to opt for sound banking every time," he says. Also, since "financial engineers seem to get their necks chopped off periodically," they shouldn't get bailed out when it happens.

The father of modern finance knows how badly correlated portfolios create risk instead of controlling risk. Mr. Markowitz deserves a hearing from policy makers for his insistence that they focus on restoring information and transparency to the credit markets, making losses clear and resetting prices accordingly. To put the issue in probability terms, the odds are between very remote and nonexistent that the economy can recover until these basic steps are taken.

An Unrelated Story

U.S., Global Stock Markets Increasingly Take Separate Paths

By CRAIG KARMIN
And JOANNA SLATER

FOR THE FIRST time in years, foreign stocks are behaving less like they are joined at the hip with U.S. shares—good news for globally minded investors worried that U.S. economic growth may be slowing.

Investors are increasingly preoccupied with the relationship between U.S. and foreign markets, particularly last Thursday, when a 4.5% drop in the Shanghai Composite Index led to declines across Asia. U.S. markets finished flat or slightly lower.

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Correlation—the tendency of two markets to move in tandem—is decreasing between U.S. and foreign markets partly because economic and earnings growth are diverging.

For years, "as the U.S. market went, so went everything else," says Steven Auth of Federated Investors in Pittsburgh. The fact that markets are moving less in sync can be good news for global investors: It has the potential to smooth out the ups and downs of their overall returns.

Textbook theory suggests that investing abroad helps to diversify a portfolio because overseas stocks are influenced, at least in part, by local economic conditions and interest rates. Therefore, they shouldn't necessarily move the same way as U.S. stocks.

Correlation is measured on a scale of 1 to minus 1. When markets are moving in perfect unison, they have a correlation of "1" and when they move in exact opposite directions, it is "minus 1." (At "0" there is no relationship.)

During the two-year period that ended in February, correlation between U.S. and other developed markets was 0.63, according to ING Asset Management. That is a big decline from 2003 to 2005, when they practically moved in lockstep, at 0.93. (The figures are based on monthly movements in the Standard & Poor's 500-stock index and the Morgan Stanley Capital International EAFE indexes.)

So far this year U.S. markets have held up well. But foreign markets are doing even better. The Dow Jones World Index, excluding the U.S., is up 8.5% this year in dollar terms, compared with 3.9% for the S&P 500.

The problem is that many analysts see economic and corporate-profit growth slowing in the U.S., while still expanding in much of Europe, Japan and the developing world. The U.S. economy has expanded about 2% over the past year. In Europe and Japan, economies are expanding at a 2.5% clip, according to Morgan Stanley. Growth in much of the developing world is poised to continue expanding at a faster pace than in the U.S.

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Mr. Auth sees returns on foreign stocks leaving American stocks behind. He says stock prices outside the U.S. look cheaper relative to earnings, and he believes the dollar will continue to weaken, making returns on foreign stocks higher when translated into dollars.

The higher correlations earlier this decade reflected the bursting of the tech-stock bubble, because it dragged down most developed markets, says Leila Heckman of Heckman Global Advisors, a unit of Bear Stearns Asset Management.

In recent years, she says, the U.S. market tended to be less correlated with Japan, Australia, New Zealand and Singapore than it did with European shares.

At the moment, however, Ms. Heckman favors European stocks because she says they will outperform their U.S. counterparts during the near term thanks to cheaper valuations. She notes that high correlation between markets doesn't mean they will demonstrate identical returns, just that they are prone to move in the same direction.

"Correlations have been all over the place historically," Ms. Heckman says. "As long as they're not '1,' and you're investing in different sectors as well as different countries, you can still have some benefits from diversification."

Still, signs that economies around the world might be decoupling from the U.S. are fueling hopes that stock-market performances will diverge even further. While U.S. profit growth in the first quarter is expected to be at the lowest level in five years, "the rest of the world can continue to post solid growth even if U.S. growth remains subpar," J.P. Morgan wrote in a recent report.

Foreign companies may depend less on the American consumer than in the recent past. Morgan Stanley says U.S. exports account for only about 2.9% of Japan's gross domestic product, compared with 4% of GDP in previous decades. Emerging markets, meanwhile, are increasingly selling commodities and other goods to China and India, lessening their historical dependence on the U.S. export market.

In Brazil, a growing middle class and China's demand for iron ore, steel and beef mean that the nation's companies "are fairly well insulated" from a U.S. economic slowdown or dip in the stock market, says Thierry Wizman at Bear Stearns.

Others point to differences in monetary policy as another reason why stock-market performances can diverge: the European Central Bank isn't finished raising interest rates, says Virginie Maisonneuve, head of international equities at Schroders Investment Management in London, while the Federal Reserve appears to be at a standstill.

"You'll continue to see a decoupling" between the U.S. and Europe, she says. And even if diversification proves to be fleeting, some say that shouldn't discourage investment abroad. "The U.S. only represents half of the capitalization of the global equity markets," says Steven Bleiberg, head of global asset allocation at Legg Mason. "Why should you exclude half of your opportunity?"

THE WALL STREET JOURNAL.

Monday, April 23, 2007

NEW YORK TIMES
p. B1

May 10, 2013

How Cooper Union's Endowment Failed in Its Mission

By JAMES B. STEWART

Since Peter Cooper's heirs gave the Cooper Union for the Advancement of Science and Art the land under the Chrysler Building in 1902, the school's endowment has enabled it to offer students a high-quality, tuition-free education through two world wars, the Great Depression and multiple stock market crashes and financial crises.

So why does Cooper Union now find itself forced to charge tuition of an estimated $20,000 a year, abandoning what many consider its most important legacy?

This week, angry students were occupying the president's office in protest. They might be even angrier to learn that some of their future tuition dollars could be going to support wealthy hedge fund managers who oversee some of the school's $666.7 million endowment.

Cooper Union may be an extreme example, but it's hardly the only college suffering from a combination of decades of bad decisions and recent treacherous markets. Its endowment was typical of the many endowments and pension funds that took the plunge into so-called alternative investments like hedge funds, which have lured investors with the promise of generous and steady returns in both good times and bad. And compared with many universities, Cooper Union did a good job managing its endowment through the recent financial crisis. As recently as 2009, the school maintains, it ranked first among all American universities for endowment performance.

Even so, hedge funds couldn't solve the college's dire financial problems, and many hedge funds have been far more successful at lining the pockets of their managers than beating market averages. (The typical hedge fund manager charges a fee of 2 percent of assets plus 20 percent of any gains.) In fiscal year 2009, which ended June 30, 2009, Cooper Union's hedge funds and other managed assets lost 14 percent, and the returns since then have lagged the stock market's recovery. Today, Cooper Union's endowment is lower than it was at the end of fiscal year 2008, even as the Standard & Poor's 500-stock index has hit new highs. From 2009 to 2012, a simple, low-fee mix of 60 percent stocks and 40 percent bonds far outperformed hedge fund indexes.

Weak hedge fund performance is hardly Cooper Union's only financial problem. Today's crisis has been brewing for decades if not longer, and comes after years of what looks like bad management decisions with little accountability or supervision by New York's attorney general, who oversees nonprofit institutions. Over the decades, Cooper Union has sold off assets piecemeal, failed to diversify its endowment, taken on debt and built a lavish new building. After the 2000-1 stock market plunge, the managed endowment, excluding the Chrysler Building, lost half its value. The school never cultivated its potential donor base, leaving most graduates with the impression that it was wealthy and didn't need alumni contributions.

In some ways, it's surprising that the school's trustees managed to stave off charging tuition as long as they did. "We've only been one step ahead of the bailiff for decades," said John C. Michaelson, a trustee who runs an investment firm and has been chairman of the investment committee since 2012, as well as from 2005 to 2008. "We were pulling rabbits out of hats."

The simplest rule of asset management, one familiar to even novice investors, is diversification. Yet Cooper Union's endowment is highly unusual in that it's concentrated in a single asset — the land under the Chrysler Building — which accounts for nearly 84 percent of its assets, according to its most recent financial statement.

By contrast, Emory University in Atlanta, which as recently as 2001 had 60 percent of its main endowment in Coca-Cola stock, has since sold all of it and diversified into other assets.

Having so much of the endowment in a single asset "is against everything I stand for," Mr. Michaelson said. He and other trustees said they considered selling it in 2006, when the college was facing mounting financial deficits, but concluded that would be impractical. Cooper Union receives annual lease payments of $9 million from the owner of the

Chrysler Building, Tishman Speyer Properties, and $18.2 million in so-called tax equivalency payments that would otherwise go to New York City. The right to the tax revenue couldn't be transferred to a buyer.

But assuming a 5 percent return, a $27.2 million annual revenue stream would be generated by selling the Chrysler Building land for $544 million, which doesn't seem so far-fetched a price. Tishman Speyer sold 666 Fifth Avenue, which hardly compares to the landmark Chrysler Building, for $1.8 billion in 2006, and bought the MetLife building in 2005 for $1.72 billion. And the Chrysler site might have been highly appealing to a sovereign wealth fund or other major real estate investor looking for a trophy asset. (A Cooper Union spokesman said the trustees needed to generate annual revenue of $55 million, which the lease is expected to produce beginning in 2018. The amount necessary to generate that revenue at a 5 percent return would be $1.1 billion.)

Still, it doesn't seem the trustees made any serious attempt to even determine its market price, and the college seems to have had a nostalgic attachment to it as a part of its heritage. In 2006, Cooper Union defended the decision not to sell the land by describing it as "a gift from the children of Peter Cooper," that is "the heart of the Cooper Union."

Instead, Cooper Union renegotiated the lease with Tishman Speyer, which was not due to expire until 2047. The college negotiated an increase to $32.5 million in 2018, which rises every 10 years thereafter. But it still had to make it to 2018, five years into the future.

At the same time that Cooper Union decided not to try to sell the site, it borrowed $175 million, using the Chrysler site as collateral, to build a new engineering and art building and "to meet future operating deficits," as the school acknowledged in court papers seeking permission for the loan. The term of the loan was 30 years, at an interest rate of 5.875 percent, which amounts to more than $10 million in interest payments a year. By today's standards, 5.875 percent is exorbitant, but the college said it couldn't refinance the loan at a lower rate.

Hardly anyone disputes Cooper Union's need for new engineering facilities. Whether it needed that particular building, at such high cost — about $166 million — remains a matter of dispute. Trustees told me that the college's development consultants told them that a signature building with a marquee architect — in this case, Thom Mayne of Morphosis Architects — would attract a large donor eager to have his or her name on a trophy building.

But no such donor materialized, and experts I consulted said Cooper Union had it backward — the first step is to attract the donor, who then is involved in choosing the architect and designing the building. "I've never heard of a case where you build the building first and hope a donor comes along," said Kenneth E. Redd, director of research and policy analysis for the National Association of College and University Business Officers. Trustees I spoke to agreed that the assurances they got that donors would materialize proved to be wrong. "We were supposed to raise another $125 million," a trustee told me. "We didn't. Maybe we were over-optimistic, but we had these professional development people who told us someone would want to put their name on the building."

Of the loan proceeds, $34 million was turned over to the school's endowment. According to Mr. Michaelson, all of that was held in cash and used over the next few years to cover the school's mounting operating deficits. "I never would have borrowed money to invest in the market," Mr. Michaelson said. "It's against everything I believe in; I don't believe in leverage. **Leverage is great on the upside. It destroys you on the downside. We couldn't afford to lose money."**

But the endowment aside, the large loan did have the effect of adding a large amount of leverage to Cooper Union's balance sheet at what turned out to be an especially bad moment. And the cash freed up other money for alternative assets at what turned out to be the top of the market. In 2006, the school had $19.4 million in hedge funds. In 2007, that had ballooned to $75.6 million, which amounted to more than 60 percent of the managed portfolio, excluding the Chrysler site and cash. By 2008, the hedge fund investments amounted to almost $103 million. That's a very high concentration of the non-real estate assets in a single asset class.

Cooper Union's heavy reliance on hedge funds "strikes me as irresponsible," said Simon Lack, an investment adviser and author of "The Hedge Fund Mirage," which questions many of the premises of hedge funds. "Of course, it was forced upon them by a long series of what look like bad decisions. But there's no way that hedge funds could deliver the returns they wanted after their high fee structure."

Mr. Michaelson said he anticipated there might be a market downturn, and that the hedge funds included so-called long-short funds and absolute return strategies intended to protect against declining markets. But by the end of fiscal

year 2009, Cooper Union's hedge funds amounted to just $18.8 million, in part because of market declines and in part through liquidation.

Mr. Michaelson said he was aiming for a 10 percent annual return, which may have been attainable in the early days of hedge funds, when they had much less capital to invest. Today, "such returns are simply unrealistic," Mr. Lack said.

Hedge funds did help cushion the market decline in fiscal year 2009, when the S.& P. 500 dropped about 26 percent. But they have hurt the endowment's performance since then. Mr. Michaelson said Cooper Union's returns for the managed endowment, excluding the Chrysler asset and cash, were negative 14 percent in fiscal year 2009, 10 percent in 2010 and 17 percent in 2011. Cooper Union's portfolio lost 5 percent in fiscal year 2012. That portion of the endowment fell to about $85.9 million at the end of fiscal year 2012, from about $169 million in 2008, and the total endowment dropped to $666.7 million from $710 million in 2008.

By comparison, a simple mix of 60 percent stocks, as measured by the S.& P. 500, and 40 percent bonds, using the Dow Jones corporate bond index, performed far better: down 11.7 percent in 2009, and up 14.5 percent in 2010, 20.8 percent in 2011 and 7.9 percent in 2012. Yet investors keep pouring money into hedge funds — a record $15.2 billion in this year's first quarter. Hedge funds now have $122 billion under management, a new high, according to Hedgeweek, a trade publication.

Cooper Union's costs, especially health care costs, kept mounting inexorably. In 2008, the college was $4.6 million short in cash. Last fiscal year, the cash-flow deficit was $13.2 million.

Aside from endowment income, universities have only limited options for increasing revenue: donations, tuition and, for research universities, government grants. Alumni contributions have long been a weak spot at Cooper Union. Thomas R. Driscoll, a trustee and member of the alumni council, said: "There was never any sense of giving back. Cooper never asked. We always thought Cooper didn't need the money because it had the Chrysler Building. Forty years ago, I would have stressed to students that someone had to make it possible for you to come here for free."

With few donations, that left Cooper Union only one option: charging tuition. On April 23, the college announced that it would cut the full-tuition scholarship in half beginning with the entering class in 2014, and would continue to offer full-tuition scholarships to students with demonstrated need. "Our priorities have been and will continue to be quality and access, so that we will remain a true meritocracy of outstanding students from all socio-economic backgrounds," the college's trustees said in a statement.

Mr. Michaelson conceded that the school could have continued to use the endowment to cover deficits and would have survived until 2018, when the higher payments from the Chrysler lease start. "But what kind of school would you have had by then?"