

Structured Investments Solution Series
Volume I:

Principal Protected Investments



Profit from Potential Market Gains While
Protecting Your Investment Principal at Maturity

J.P.Morgan

Introduction

FOCUSING ON YOUR FINANCIAL GOALS can be challenging during periods of extreme market volatility. While your brain may tell you that staying the course is the smartest strategy, your stomach may lead you to make impulsive investment decisions. For many investors, finding the optimal balance between risk and reward—and having the fortitude to maintain that balance over the long haul—is no easy task.

In recent years, new Structured Investments have been introduced in the U.S. to help investors meet their objectives. Generally, Structured Investments can help you achieve three primary objectives: investment returns with little or no principal at risk, higher returns in a range-bound market with or without principal protection, as well as alternatives for generating higher yields in a low-return environment. They also provide you with an opportunity to access asset classes, such as commodities and foreign currencies, which in the past were primarily available to institutional investors.

You can use Structured Investments to achieve greater diversification, to gain or hedge exposure to certain asset classes, or to align your portfolio with a particular market or economic view. They provide asymmetrical returns, meaning that returns will be higher or lower than those derived from a direct investment in a particular asset. Structured Investments usually combine a debt security with an underlying asset, such as an equity, a basket of equities, a domestic or international index, a commodity, or some type of hybrid security.

These investments have long been popular in Europe and Asia and over the past several years, they have started to gain acceptance among U.S. investors. According to the Structured Products Association, nearly \$114 billion in new products were issued in 2007, up from \$64 billion in 2006 and \$48 billion in 2005.¹

This report examines the role that Principal Protected Investments can play in your portfolio and how they can help meet a variety of objectives, including risk reduction or enhanced upside potential.

1. www.structuredproducts.org

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Understanding Principal Protected Investments (PPIs)

Principal Protected Investments combine some of the features of a fixed-income security, such as return of principal at maturity, with the potential for capital appreciation that you get from equities. They are designed to protect against losses at maturity, while providing the opportunity to participate in the gains on an equity investment. Depending on the specific offering, PPIs may offer full upside participation or they may be subject to a maximum return. In all cases, you forgo dividends.

PPIs typically mature within one to seven years, and you must hold them until maturity to guarantee your principal's return. Maturities shorter than five years typically have a cap or maximum return. Generally, they are issued as registered notes or certificates of deposit in \$1,000 denominations. PPIs can be linked to a variety of underlying assets, including an equity index, a basket of equities, commodities, or currencies. Many investors hold them in tax-deferred accounts. This report focuses on PPIs linked to an equity index.

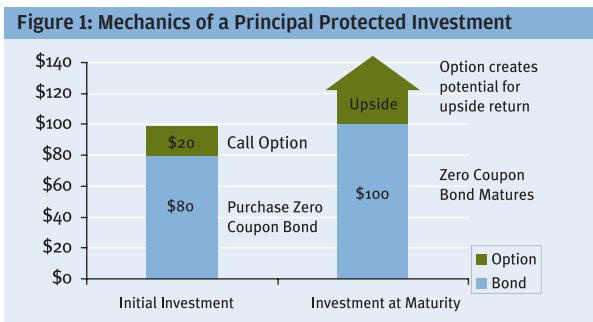
Anatomy of a PPI

When constructing a PPI that is linked to an equity index, the issuers invest in both zero coupon bonds and equity call options (see

figure 1). First, they use a portion of the available assets to structure zero coupon bonds that match the maturity date and principal amount of the PPI. Unlike regular bonds, zero coupon bonds are issued at a discount to their face value and do not pay interest. This means that issuers can structure a bond that will return \$1,000 at maturity for an upfront investment of less than \$1,000. The difference between the bond's value at maturity and the amount paid represents the bond's implied return.

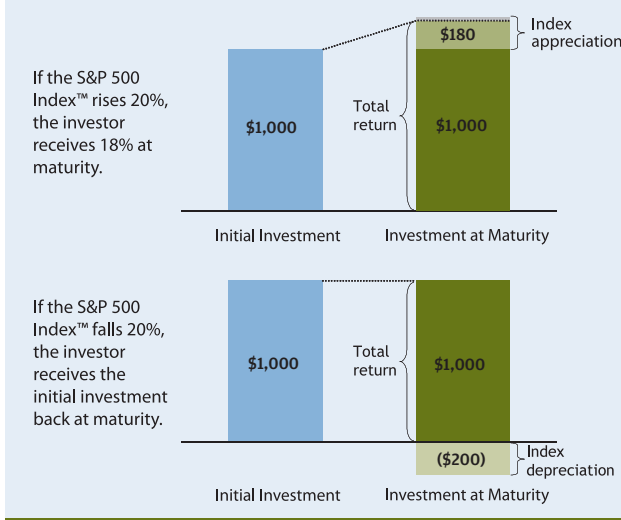
By investing in zero coupon bonds, the issuers have ensured that the PPI's investment principal is protected at maturity. Your direct credit risk is limited to the financial well being of the issuer (in this case, J.P. Morgan).

Because zero coupon bonds are issued at a discount to their face value, the PPI issuers will have excess capital to invest. They put this money to work by structuring equity call options on a broadbased equity index, such as the S&P 500 Index. A call option gives an investor the right (but not the obligation) to buy an investment in the index at a specific price within a specific period of time. The call options typically have an expiration date that



Source: J.P. Morgan

Figure 2: Example – PPI linked to the S&P 500 Index™ with a 7-year maturity and a 90% participation rate



Source: J.P. Morgan

matches the maturity date of the zero coupon bond, along with a “strike price,” or entry point, that matches the current value of the index. If the underlying asset (the S&P 500 Index) increases in value, the value of the call option will also increase.

No Free Lunch

As mentioned above, PPIs allow you to participate in some but typically not all of the gains in an equity index via a call option. To pay for the principal protection provided by the investment in zero coupon bonds, however, you forfeit all dividend income, and you may also forgo a portion of any gains in the equity index. The percentage of the potential gains that you receive—known as the “participation rate”—will vary for each PPI, depending on the underlying asset, the maturity date, and the minimum and maximum return payouts.

The participation rate is determined by two factors: the remaining capital available after structuring the zero coupon bond and the price of the equity call option. The price paid for the equity call option depends upon the implied volatility of the equity index purchased. Generally, higher market volatility leads to higher prices for index call options. There is no way to control this; therefore, the participation rate will be determined by market conditions at the time of issuance. When volatility is lower, participation rates are higher, and vice versa.

PPI Performance under Different Market Conditions

To illustrate how a PPI might perform under varying market conditions, refer to figure 2. In this hypothetical example, you invest \$1,000 in a Principal Protected Investment linked to the

S&P 500 Index. The PPI matures in seven years and offers a participation rate of 90%. This means that, should the S&P 500 move higher, you would participate in 90% of those gains.

If, at the PPI's maturity, the S&P 500 had risen 20%, you would receive your original investment (\$1,000), plus a return of 18% ($\$1,000 \times 90\% (0.90) \times 20\% (0.20) = \180). While the PPI gained less than a direct investment in the index would have returned (\$200 plus the dividend yield), you can take comfort in the fact that your principal investment was safe throughout the seven-year term of your PPI.

Now consider what happens if the S&P 500 were to decline 20% at maturity (figure 2). Rather than incurring a \$200 loss, you would receive your entire principal back. As this example demonstrates, PPIs will always outperform a direct investment in an index during periods of market declines and may underperform during periods of market gains.

Are PPIs Right for You?

If you are saving and investing for life's major milestones, tend to avoid equities altogether, or often make risky bets in an effort to break even on stocks that have lost value, PPIs may be a suitable investment for you. Do you recognize yourself in any of the following profiles?

Focused on Life's Milestones. People who are investing for a specific long-term goal, such as future college expenses, retirement, or a vacation home, usually have a good idea of the minimum amount they will need to meet their objective. For these investors, returns over and above their goal are "nice to have," but not a necessity. On the other hand, they cannot tolerate the idea of failing to meet their goal, and thus they often favor fixed income or cash investments over more volatile equities. Because returns from fixed-income investments have historically lagged those of equities,

however, these investors may have to save a much higher proportion of their income to meet their goal.

Nervous Nellies. All investments entail a tradeoff between risk and reward. Investors typically will take on more risk when they are convinced that the potential for higher returns outweighs the risk of losses. Some investors, however, have such a high degree of loss-aversion that they have difficulty taking on a rational amount of market risk.

According to the prospect theory of behavioral finance researchers, these investors evaluate gains and losses in an entirely different manner, attributing more importance to investment losses than investment gains. Whereas these investors are happy when they gain \$100, they are not twice as happy when they gain \$200. Conversely, they consider a \$100 loss more important than a \$100 gain. This tendency to avoid any losses relegates their portfolio to fixed-income and cash investments. While these investors may never find equities attractive, PPIs allow them to participate in potential equity market gains while protecting all or a portion of their principal.

Those Who Cannot Let Go. On the other end of the risk spectrum, some investors have such a high degree of confidence in their investment decisions that they have difficulty letting go of poorly performing stocks. When a stock holding declines, they tend to take increasingly risky bets in an effort to break even. Research has shown that investors tend to hold on to poorly performing stocks even when it's clear that they should have reallocated a portion of their funds to safer investments, such as fixed income or cash. For investors who fit this profile, PPIs offer an effective way to avoid reckless behavior without sacrificing the potential for equity returns.

Structured Investments, including PPIs, can provide innovative ways to help you meet your investment goals. To determine whether a PPI is appropriate for you, review the following questions with your advisor:

- What is my investment time horizon?
- How much risk am I comfortable taking on?
- Am I willing to sacrifice dividends or guaranteed coupon payments in exchange for principal protection?
- Do I have a bullish, bearish, or neutral market outlook?
- Can I do without a regular stream of income?
- Am I willing to invest capital for the longer periods of time, up to seven years?

The answers to these questions should help you determine whether PPIs belong in your portfolio. At a minimum, taking the time to gain a better understanding of your financial goals and risk tolerance will be its own reward.

The answers to these questions should help you determine whether PPI's belong in your portfolio. At a minimum, taking the time to gain a better understanding of your financial goals and risk tolerance will be its own reward.

IN BRIEF

In Brief: Principal Protected Investments (PPIs)

What benefits do they provide?

Generally, Principal Protected Investments offer a return at maturity that is linked to an underlying asset, such as a broad market index or a basket of stocks. They provide some of the features of a fixed-income security, such as return of principal at maturity, along with the potential for capital appreciation that equities provide. Maturities range from one to seven years, and you should plan to hold them to maturity.

What's the downside?

You forgo dividends and interest and may also give up a portion of any capital appreciation in exchange for principal protection.

PPIs may be right for you if you:

- Have a medium to long-term horizon (one to seven years) and are saving to meet specific financial goals, such as retirement or college.
- Are a loss-averse investor who typically avoids equities altogether.
- Tend to make increasingly aggressive bets in an effort to break even on poorly performing stocks.
- Do not have an overly bullish outlook for the stockmarket.

Certain Risk Considerations

Principal Protected Investments

Market risk. Returns on equity linked PPIs at maturity are generally linked to the performance of an underlying asset such as an index, and will depend on whether, and the extent to which, the applicable index appreciates during the term of the notes. You will receive no more than the full principal amount of your notes at maturity if the applicable index is flat or negative during the term of any applicable J.P. Morgan equity linked PPI. Returns on PPIs may be limited to a maximum return.

J.P. Morgan equity linked PPIs might not pay more than the principal amount. You may receive a lower payment at maturity than you would have received if you had invested in the index, the stocks composing the index, or contracts related to the index. If the level of the index declines at the end of the PPI's term, as compared to the beginning of the PPI's term, your gain may be zero.

Experience the J.P. Morgan Advantage

J.P. Morgan's Structured Investments are designed to complement your overall investment strategy. New solutions are under constant development to provide you with additional opportunities to enhance your portfolios. Experience the unique benefits of J.P. Morgan's Structured Investments, including:

- Innovative Structured Investments that span all of the major asset classes.
- One of the lower investment minimums in the industry.
- Direct access to Structured Investment specialists who can guide you and your advisor.
- A commitment to education demonstrated through teach-ins, conference calls, and educational materials.

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