U.S. Treasury and Government Agency Securities

United States Treasury securities are debt instruments issued by the U.S. Treasury to raise money needed to operate the federal government and to pay off maturing obligations. They are backed by the full faith and credit of the United States government which guarantees that interest and principal payments will be paid on time, and thus, these securities are considered very safe investments. The Treasury issues debt instruments of varying duration and features. Treasury issues with the shortest maturity, known as Treasury bills (or T-bills), are typically regarded as cash equivalents.

The Treasury sells marketable bills, fixed-principal notes and inflation-indexed notes in regularly scheduled auctions. These bills, fixed-principal notes and bonds, and inflation-indexed notes and bonds are freely transferable. U.S. government securities are held by investors of all types, worldwide, and traded in the highly competitive global capital markets. Effective yield at issuance is determined through an auction process and varies with market conditions, but the shorter the maturity period, the lower the rate.

U.S. Treasury securities can be purchased directly from the Treasury Department or through investment institutions and are available in book-entry form (i.e., ownership is electronically recorded, but no paper instrument is issued) in the commercial book-entry system through a financial intermediary, or they may be held in book-entry form in the Treasury Direct system, a service of the Treasury Department.

# Treasury Bills (T-Bills)

Treasury bills are short-term securities that mature in one year or less from their issue date. T-bills are issued with maturity periods of three months, six months, or one year. T-bill yields may be less than money-market fund yields because they are perceived as involving lower risk. T-bills can be bought directly from the U.S. Treasury or through brokers in minimum denominations of $1,000..

T-bills are issued at a price below their par value. If held to maturity the "interest" earned is the difference between the purchase price and maturity value. For example, a $10,000 26-week Treasury bill purchased for $9,740 and held until maturity, would earn interest of $260.

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# Treasury Notes

Treasury notes mature in more than a year, but not more than 10 years from their issue date. They pay a fixed rate of interest every six months until maturity, at which time face value amount is paid.

Treasury sells two kinds of notes, fixed-principal and inflation-indexed. Both pay interest twice a year, but the principal value of inflation-indexed securities is adjusted to reflect inflation as measured by the Consumer Price Index--the Bureau of Labor Statistics' Consumer Price Index for All Urban Consumers (CPI-U). With inflation-indexed notes the semiannual interest payments and maturity payment are calculated based on the inflation-adjusted principal value of the security.

# Treasury Bonds

Treasury bonds mature in more than 10 years from their issue date. However, the Treasury Department hasn't offered a Treasury bond since its decision in October 2001 to suspend issuance of the 30-year bond.

# Savings Bonds and Other Non-marketable Treasury Securities

The Treasury also sells non-marketable securities to the public in the form of U.S. Savings Bonds, state and local government series securities, foreign-series securities, domestic-series securities, and mortgage guaranty insurance company tax and loss bonds. Non-marketable securities that the Treasury issues to the public are not transferable, and they can be purchased and redeemed, through a Federal Reserve Bank, or in the case of U.S. Savings Bonds, through issuing and paying agents (mostly commercial banks and thrifts).

U.S. Savings Bonds

Savings bonds are Treasury securities that are payable only to the person to whom they are registered. Savings bonds can earn interest for up to 30 years, but they can be cashed in after 6 months.

# Treasury Inflation-Protection Securities

Treasury inflation-protection securities ("TIPS") are U.S. government debt obligations, the principal amount of which fluctuates with movements in the Consumer Price Index, specifically the non-seasonally adjusted U.S. City Average All Items CPI for All Urban

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Consumers (CPI-U). These instruments provide for semi-annual interest payments at a fixed annual rate; however, the principal amount upon which the interest rate is applied fluctuates with changes in the CPI. Thus, the adjusted principal amount is effectively determined as of the date of each interest payment, based upon the change in the CPI-U from the date of issuance of the obligation to the date of the interest payment.

In the event that the CPI-adjusted principal amount as of the maturity date is less than the original principal amount at issuance, the original principal amount will nonetheless be paid , this feature is referred to as a "minimum guarantee payment."

TIPS are issued in denominations of $1,000 and multiples of $1,000. They are currently available only as 10-year notes because issuance of the 30-year bonds was suspended in 2001.

# Zero-Coupon Treasuries or STRIPS

STRIPS, also known as zero-coupon securities, or "zeros," are Treasury securities that don't make periodic interest payments. Securities dealers create STRIPs by separating the interest and principal parts of a Treasury note or bond. For example, a 10-year Treasury note consists of 20 interest payments (one every six months for 10 years) and a principal payment at maturity. When this security is "stripped," each of the 20 interest payments and the principal payment become separate securities and can be held and transferred separately.

Zeros sell at deep discounts from face value. Were the difference between the purchase price of the zero and its face value when redeemed is the investor's return. Because their increase in value is taxable yearly as it accrues, zeros have become most popular for investments on which taxes can be deferred, such as individual retirement accounts and pension plans. Their known cash value at specific future dates enables savers and investors to tailor their use to a wide range of portfolio objectives.

Stripped securities can be purchased only from private dealers and brokers.

Creating Zeros by Coupon Stripping

Coupon stripping is the act of detaching the interest payment coupons from a note or bond and treating the coupons and the body as separate securities. Each coupon, or interest payment, entitles its owner to a specified cash return on a specific date; the body of the security calls for repayment of the principal amount at maturity.

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The body of the stripped securities and the separate coupons are known as "zero coupons" or "zeros" because there are no periodic interest payments on each instrument. After stripping, the body and coupons are sold at a deep discount from their face values, as such, owner’ s benefit only from the difference between the purchase price and the payment received upon sale or at maturity.

For example, a 20 year bond with a face value of $20,000 and a 10% interest rate could be stripped into its principal and its 40-semi-annual interest payments. The result would be 41 separate zero coupon instruments, each with its own maturity date. The principal would be worth $20,000 upon maturity, and each interest coupon $1,000, or one-half the annual interest of 10% on $20,000. Each of the 41 securities, now possessing a distinct ID number, could be traded separately until its maturity date at prices determined by the market.

Proliferation of Treasury STRIPS

Some Treasury securities were traded in the secondary market without one or more of their interest coupons in the late 1970s. Stripped securities offered investors a financial instrument that had abundant supply, no default risk, and low incidence of being "called," or paid off, before their maturity date. However, their popularity raised fears within the Treasury Department that zeros would result in a sizable loss of tax revenues.

Detached coupons and the body of the security were sold at deep discounts, $.05 or $.10 on the dollar. After purchase, an investor claimed a capital loss on the difference between the sale price of the security and its face value, thus reducing the investor’ s overall tax liability.

The Tax Equity and Fiscal Responsibility Act (TEFRA) of 1982 adjusted the tax treatment of stripped securities to reduce their tax advantage. The Treasury Department then withdrew its objections to coupon stripping, prompting several securities dealers to create new products incorporating receipts for stripped debt securities.

TEFRA also required the Treasury to begin issuing all of its securities in book-entry (electronic) form only, beginning on January 1, 1983. This provision eliminated Treasury issues of bearer notes and bonds with coupons attached. Physical stripping would no longer be possible.

In response, bond dealers began to market receipts that evidenced ownership of Treasury zeros held by a custodian. The first of these "receipt products" were named Treasury Investment Growth Receipts, or TIGRS. Similar products appeared in 1984,

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such as Certificates of Accrual on Treasury Securities (CATS) and Treasury Receipts (TRs). However, most of these ecurities were not exchangeable with other stripped securities, and thus lacked the liquidity customers had come to expect from "zero" instruments.

In February 1985, the Treasury took a more active role by introducing its own coupon stripping program called STRIPS, an acronym for Separate Trading of Registered Interest and Principal of Securities. The STRIPS program was intended primarily to reduce the cost of financing the public debt "by facilitating competitive private market initiatives."

Under the STRIPS program, U.S. government issues with maturities of ten years or more became eligible for transfer over Fedwire. The process involves wiring Treasury notes and bonds to the Federal Reserve Bank of New York and receiving separated components in return. This practice also reduced the legal and insurance costs customarily associated with the process of stripping a security.

In May 1987, the Treasury began to allow the reconstitution of stripped securities.

# Federal Agency Securities

In addition to the U.S. Treasury, several federal-government-backed agencies issue debt securities, which are popular as low-risk conservative investments. Although these securities are technically not backed by the full faith and credit of the United States, as are the Treasury obligations discussed above, they are considered quite safe, since these are government sponsored agencies, and it is most unlikely that the federal government would permit a default without stepping in with "bailout" legislation. The U.S. government agency debt market is currently estimated at more than $7 trillion in outstanding issues and is becoming more important as the issuance of U.S. government Treasury securities declines.

Among the most notable of these agencies are the Federal Home Loan Mortgage Corporation (Freddie Mac), Federal National Mortgage Association (Fannie Mae), Student Loan Marketing Association (Sallie Mae), Government National Mortgage Association (Ginnie Mae), Federal Home Loan Bank System (FHLB), Federal Farm Credit System and Federal Agricultural Mortgage Corporation (Farmer Mac). There are several others. Most of these agencies are wholly owned by the federal government. Others have been transferred to public ownership, and are publicly traded corporations, including Freddie Mac, Sallie Mae and Fannie Mae, all of which are listed on the New

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# York Stock Exchange. Others are owned by the organizations that the agency serves; for example, the FHLB is owned by its member banks

# Mortgage-Backed Securities

Once a homeowner takes out a home mortgage, it is likely that the lender will sell the loan to one of the federal (or quasi-federal) agencies that act as financial intermediaries in the mortgage market. These include Fannie Mae, Ginnie Mae and Freddie Mac. These agencies acquire thousands of loans from the mortgage originators and package them into pools that serve as collateral for securities issued by the agencies. These mortgage-backed securities are guaranteed by the issuing agency, and the interest and principal are effectively funded by the interest and principal that the agency receives on the underlying pool of home mortgages. As the underlying home mortgages are repaid by the borrowers, these repayments are passed through to the holders of the agency securities.

When the original retail lender (bank, S&L, credit union, etc.) sells a loan to one of the intermediaries, this is not made known to the homeowner/borrower, who continues to make monthly payments to the original lender. The original lender "services" the loan, remitting payments to the agency to which it was sold, for which it is paid a servicing fee. This system of resale of home mortgages by retail lenders allows the lenders to continuously recirculate funds, earning income from the upfront fees (points) on the mortgages, as well as the ongoing servicing fees.

Although mortgage-backed securities are considered very low risk, their effective yield is generally higher than Treasury securities. This is primarily because the amount of the periodic payments to investors is unpredictable. Every time one of the underlying mortgages is paid off by the homeowner (e.g., when a house is sold or refinanced), there will be a premature distribution of principal to the investor in the mortgage-backed security, and a reduction of future regular periodic distributions. At a time of declining mortgage rates, home refinancing will accelerate, and investors in mortgage-backed securities will receive significant returns of principal. This is disadvantageous, since reinvestment of the funds will likely have to be at lower yield rates than the rates earned with respect to the original pool of loans underlying the mortgage-backed security originally purchased.