§ 356.36 Paperwork Reduction Act approval.

The collections of information contained in §§ 356.11, 356.12, 356.13, 356.14, and 356.15 and in appendix A of this part have been approved by the Office of Management and Budget under control number 1535–0112.

[61 FR 37011, July 16, 1996]

APPENDIX A TO PART 356—BIDDER DEFINITIONS

For the purpose of this part, the definitions set forth in this appendix describe all of the categories of bidders eligible to bid in Treasury auctions. These definitions are to be used by persons and entities in determining whether they are considered one bidder or more than one bidder for the purpose of bidding in auctions and for the purpose of complying with the requirements of this part. Notwithstanding these definitions, any persons or entities that intentionally act together with respect to bidding in a Treasury auction are considered, collectively, to be one bidder.

The following definitions will be used by the Department in applying competitive and noncompetitive award limitations and related requirements, as described in this part.

(a) *Corporation*—A corporation and all affiliates, whether persons, partnerships, or other entities, hereinafter referred to as a corporate structure, are considered, collectively, to be one bidder.

An affiliate is any: entity that is more than 50% owned, directly or indirectly, by the corporation; entity that is more than 50% owned, directly or indirectly, by any other affiliate of the corporation; person or entity that owns, directly or indirectly, more than 50% of the corporation; person or entity that owns, directly or indirectly, more than 50% of any other affiliate of the corporation; or entity, a majority of whose board of directors or a majority of whose general partners are directors or officers of the corporation or of any affiliate of the corporation.

For the purpose of this part, a business trust, such as a Massachusetts business trust or a Delaware business trust, is considered to be a corporation.

Under certain circumstances, one or more major organizational components (e.g., the parent or a subsidiary) in a corporate structure, either separately or together with one or more other organizational components in the corporate structure, may be recognized as a bidder separate from the larger corporate structure. All of the following criteria must be met for such component or components to qualify for recognition as a separate bidder:

(1) Such component or components must be prohibited by law or regulation from exchanging, or must have established written internal procedures (i.e., Chinese walls) designed to prevent the exchange of, information related to bidding in Treasury auctions with any other component in the corporate structure;

(2) Such component or components must not be created for the purpose of circumventing the Department's bidding and award limitations;

(3) Decisions related to purchasing Treasury securities at auction and participation in specific auctions must be made by employees of such component or components. Employees of such component or components that make decisions to purchase or dispose of Treasury securities must not perform the same function for other components within the corporate structure; and

(4) The records of such component or components related to the bidding for, acquisition of, and disposition of Treasury securities must be maintained by such component or components. Those records must be identifiable—separate and apart from similar records for other components within the corporate structure.

To obtain recognition as a separate bidder, each component or group of components must request such recognition from the Department, provide a description of the component or group and its position within the corporate structure, and provide the following certification:

[Name of the bidder] hereby certifies that to the best of its knowledge and belief it meets the criteria for a separate bidder as described in appendix A to 31 CFR part 356. The above-named bidder also certifies that it has established written policies or procedures, including ongoing compliance monitoring processes, that are designed to prevent the component or group of components from:

(1) Exchanging any of the following information with any other part of the corporate structure: (a) Yields or rates at which it plans to bid; (b) amounts of securities for which it plans to bid; (c) positions that it holds or plans to acquire in a security being auctioned; and (d) investment strategies that it plans to follow regarding the security being auctioned, or

(2) In any way intentionally acting together with any other part of the corporate structure with respect to formulating or entering bids in a Treasury auction.

The above-named bidder agrees that it will promptly notify the Department in writing when any of the information provided to obtain separate bidder status changes or when this certification is no longer valid.

(b) *Partnership*—A partnership for which the Internal Revenue Service has assigned a

tax-identification number; general partners acting on behalf of the partnership; and all affiliates, whether persons, corporations, or other entities; hereinafter referred to as a partnership structure, are considered, collectively, to be one bidder. A partnership structure that contains one or more corporations is considered one bidder under either this ''partnership'' category or the ''corporation'' category, but not both.

An affiliate is any: Entity that is more than 50% owned, directly or indirectly, by the partnership; entity that is more than 50% owned, directly or indirectly, by any other affiliate of the partnership; person or entity that owns, directly or indirectly, more than 50% of the partnership; person or entity that owns, directly or indirectly, more than 50% of any other affiliate of the partnership; or entity, a majority of whose general partners or a majority of whose board of directors are general partners or directors of the partnership or of any affiliate of the partnership.

Under certain circumstances, one or more major organizational components (e.g., the partnership or a subsidiary) in a partnership structure, either separately or together with one or more other organizational components in the partnership structure, may be recognized as a bidder separate from the larger partnership structure. All of the following criteria must be met for such component or components to qualify for recognition as a separate bidder:

(1) Such component or components must be prohibited by law or regulation from exchanging, or must have established written internal procedures (i.e., Chinese walls) designed to prevent the exchange of, information related to bidding in Treasury auctions with any other component in the partnership structure;

(2) Such component or components must not be created for the purpose of circumventing the Department's bidding and award limitations;

(3) Decisions related to purchasing Treasury securities at auction and participation in specific auctions must be made by employees of such component or components. Employees of such component or components that make decisions to purchase or dispose of Treasury securities must not perform the same function for other components within the partnership structure; and

(4) The records of such component or components related to the bidding for, acquisition of, and disposition of Treasury securities must be maintained by such component or components. Those records must be identifiable—separate and apart from similar records for other components within the partnership structure.

To obtain recognition as a separate bidder, each component or group of components must request such recognition from the Department, provide a description of the component or group and its position within the partnership structure, and provide the following certification:

[Name of the bidder] hereby certifies that to the best of its knowledge and belief it meets the criteria for a separate bidder as described in appendix A to 31 CFR part 356. The above-named bidder also certifies that it has established written policies or procedures, including ongoing compliance monitoring processes, that are designed to prevent the component or group of components from:

(1) Exchanging any of the following information with any other part of the partnership structure: (a) Yields or rates at which it plans to bid; (b) amounts of securities for which it plans to bid; (c) positions that it holds or plans to acquire in a security being auctioned; and (d) investment strategies that it plans to follow regarding the security being auctioned, or

(2) In any way intentionally acting together with any other part of the partnership structure with respect to formulating or entering bids in a Treasury auction.

The above-named bidder agrees that it will promptly notify the Department in writing when any of the information provided to obtain separate bidder status changes or when this certification is no longer valid.

(c) *Government-related entity*—(1) The government of each of the 50 states and of the District of Columbia is considered to be one bidder.

(2) A unit of local government, including any county, city, municipality, or township, or other unit of general government, as defined by the Bureau of the Census for statistical purposes, is considered to be one bidder.

(3) The government of a commonwealth, territory, or possession of the United States is considered to be one bidder.

(4) A governmental entity, body, or corporation established under Federal, State, or local law is considered to be one bidder.

(5) A foreign central bank, the government of a foreign state, or an international organization in which the United States holds membership is considered to be one bidder.

An investment, reserve, or other fund of one of the above government-related entities, not otherwise meeting the definition of the ''trust or other fiduciary estate'' category, is considered part of that entity and not a separate bidder unless applicable law requires that the investments of such fund be made separately.

(d) *Trust or other fiduciary estate*— A legal entity created under a valid trust instrument, court order, or other legal authority that designates a trustee or fiduciary to act for the benefit of a named beneficiary may be considered a bidder. To be considered a bidder, such legal entity must be able to be

identified by the name or title of the trustee or fiduciary; specific reference to the trust instrument, court order, or legal authority under which the trustee or fiduciary is acting; and the unique IRS-assigned employer identification number (not social security number) for the entity. Further, it must be the trustee or fiduciary who makes the decisions related to participation in auctions on behalf of the trust or fiduciary estate.

(e) *Individual*— A person, whether acting in his or her individual capacity, as a sole proprietor, for any entity not otherwise defined as a bidder, or in more than one such capacity, is considered to be one bidder. When a person meets the definition of an affiliate within a corporate or partnership structure as defined above, such person may only be considered a bidder in this ''individual'' category when the bidder of which they are a part is not bidding in the same auction. A person acting in an official capacity as an employee or other representative of a bidder defined in any other category is not considered an ''individual'' bidder when acting in such capacity. A person, his or her spouse, and any children under the age of 21 having a common household are considered, collectively, to be one ''individual'' bidder.

(f) *Other bidder*— A bidder defined by any of the above categories is not considered a bidder in this category. A bidder not defined by any of the above categories may possibly be considered a bidder in this category. For purposes of this definition, ''other bidder'' means an institution or organization with a unique IRS-assigned employer identification number. This definition of other bidder includes such entities as an association, church, university, union, or club. This category does not include any person or entity acting in a fiduciary or investment management capacity, a sole proprietorship, an investment account, an investment fund, a form of registration, or investment ownership designation.

Notwithstanding the definitions in this appendix, it is the intent of the Department that no auction participant receive a larger auction award by acquiring securities through others than it could have received had it been considered a bidder under these definitions.

[58 FR 414, Jan. 5, 1993, as amended at 61 FR 37011, July 16, 1996]

APPENDIX B TO PART 356—FORMULAS AND TABLES

I. Computation of Interest on Treasury Bonds and Notes.

II. Formulas for Conversion of Fixed-Principal Security Yields to Equivalent Prices.

III. Formulas for Conversion of Inflation-Indexed Security Yields to Equivalent Prices.

IV. Computation of Adjusted Values and Payment Amounts for Stripped Inflation-Indexed Interest Components.

V. Computation of Purchase Price, Discount Rate, and Investment Rate (Coupon-Equivalent Yield) for Treasury Bills.

The numbers in this appendix are examples given for illustrative purposes only and are in no way a prediction of interest rates on any bills, notes, or bonds issued under this part.

In some of the following examples, intermediate rounding is used to allow the reader to follow the calculations. In actual practice, the Department generally does not round prior to determining the final result.

I. COMPUTATION OF INTEREST ON TREASURY BONDS AND NOTES

A. Treasury Fixed-Principal Securities

1. Regular Half-Year Payment Period

Interest on marketable fixed-principal securities is payable on a semiannual basis. The regular interest payment period is a full half-year of six calendar months. Examples of half-year periods are: (1) February 15 to August 15, (2) May 31 to November 30, and (3) February 29 to August 31 (in a leap year). Calculation of an interest payment for a fixed-principal security with a par amount of $1,000 and an interest rate of 8% is made in this manner:

($1,000 × .08)/2 = $40. Specifically, a semiannual interest payment represents one-half of one year's interest, and is computed on this basis regardless of the actual number of days in the half-year.

2. Daily Interest Decimal

In cases where an interest payment period for a fixed-principal security is shorter or longer than six months or where accrued interest is payable by an investor, a daily interest decimal, based on the actual number of days in the half-year or half-years involved, must be computed. The number of days in any half-year period is shown in Table 1.

TABLE 1

Interest period	Beginning and ending days are 1st or 15th of the months listed under interest period (number of days)		Beginning and ending days are the last days of the months listed under interest period (number of days)	
	Regular year	Leap year	Regular year	Leap year
January to July	181	182	181	182
February to August	181	182	184	184
March to September	184	184	183	183
April to October	183	183	184	184
May to November	184	184	183	183
June to December	183	183	184	184
July to January	184	184	184	184
August to February	184	184	181	182
September to March	181	182	182	183
October to April	182	183	181	182
November to May	181	182	182	183
December to June	182	183	181	182

Table 2 below sets forth the daily interest decimals covering interest from ⅛% to 20% on $1,000 for one day in increments of ⅛ of one percent. These decimals represent $\frac{1}{181}$, $\frac{1}{182}$, $\frac{1}{183}$, or $\frac{1}{184}$ of a full semiannual interest payment, depending on which half-year is applicable.

TABLE 2—DECIMAL FOR ONE DAY'S INTEREST ON $1,000 AT VARIOUS RATES OF INTEREST, PAYABLE SEMIANNUALLY OR ON A SEMIANNUAL BASIS, IN REGULAR YEARS OF 365 DAYS AND IN YEARS OF 366 DAYS (TO DETERMINE APPLICABLE NUMBER OF DAYS, SEE TABLE 1)

Rate per annum (percent)	Half-year of 184 days	Half-year of 183 days	Half-year of 182 days	Half-year of 181 days
⅛	0.003396739	0.003415301	0.003434066	0.003453039
¼	0.006793478	0.006830601	0.006868132	0.006906077
⅜	0.010190217	0.010245902	0.010302198	0.010359116
½	0.013586957	0.013661202	0.013736264	0.013812155
⅝	0.016983696	0.017076503	0.017170330	0.017265193
¾	0.020380435	0.020491803	0.020604396	0.020718232
⅞	0.023777174	0.023907104	0.024038462	0.024171271
1	0.027173913	0.027322404	0.027472527	0.027624309
1⅛	0.030570652	0.030737705	0.030906593	0.031077348
1¼	0.033967391	0.034153005	0.034340659	0.034530387
1⅜	0.037364130	0.037568306	0.037774725	0.037983425
1½	0.040760870	0.040983607	0.041208791	0.041436464
1⅝	0.044157609	0.044398907	0.044642857	0.044889503
1¾	0.047554348	0.047814208	0.048076923	0.048342541
1⅞	0.050951087	0.051229508	0.051510989	0.051795580
2	0.054347826	0.054644809	0.054945055	0.055248619
2⅛	0.057744565	0.058060109	0.058379121	0.058701657
2¼	0.061141304	0.061475410	0.061813187	0.062154696
2⅜	0.064538043	0.064890710	0.065247253	0.065607735
2½	0.067934783	0.068306011	0.068681319	0.069060773
2⅝	0.071331522	0.071721311	0.072115385	0.072513812
2¾	0.074728261	0.075136612	0.075549451	0.075966851
2⅞	0.078125000	0.078551913	0.078983516	0.079419890
3	0.081521739	0.081967213	0.082417582	0.082872928
3⅛	0.084918478	0.085382514	0.085851648	0.086325967
3¼	0.088315217	0.088797814	0.089285714	0.089779006
3⅜	0.091711957	0.092213115	0.092719780	0.093232044
3½	0.095108696	0.095628415	0.096153846	0.096685083
3⅝	0.098505435	0.099043716	0.099587912	0.100138122
3¾	0.101902174	0.102459016	0.103021978	0.103591160
3⅞	0.105298913	0.105874317	0.106456044	0.107044199
4	0.108695652	0.109289617	0.109890110	0.110497238
4⅛	0.112092391	0.112704918	0.113324176	0.113950276
4¼	0.115489130	0.116120219	0.116758242	0.117403315
4⅜	0.118885870	0.119535519	0.120192308	0.120856354
4½	0.122282609	0.122950820	0.123626374	0.124309392
4⅝	0.125679348	0.126366120	0.127060440	0.127762431
4¾	0.129076087	0.129781421	0.130494505	0.131215470
4⅞	0.132472826	0.133196721	0.133928571	0.134668508
5	0.135869565	0.136612022	0.137362637	0.138121547
5⅛	0.139266304	0.140027322	0.140796703	0.141574586
5¼	0.142663043	0.143442623	0.144230769	0.145027624
5⅜	0.146059783	0.146857923	0.147664835	0.148480663
5½	0.149456522	0.150273224	0.151098901	0.151933702
5⅝	0.152853261	0.153688525	0.154532967	0.155386740

TABLE 2—DECIMAL FOR ONE DAY'S INTEREST ON $1,000 AT VARIOUS RATES OF INTEREST, PAYABLE SEMIANNUALLY OR ON A SEMIANNUAL BASIS, IN REGULAR YEARS OF 365 DAYS AND IN YEARS OF 366 DAYS (TO DETERMINE APPLICABLE NUMBER OF DAYS, SEE TABLE 1)—Continued

Rate per annum (percent)	Half-year of 184 days	Half-year of 183 days	Half-year of 182 days	Half-year of 181 days
5¾	0.156250000	0.157103825	0.157967033	0.158839779
5⅞	0.159646739	0.160519126	0.161401099	0.162292818
6	0.163043478	0.163934426	0.164835165	0.165745856
6⅛	0.166440217	0.167349727	0.168269231	0.169198895
6¼	0.169836957	0.170765027	0.171703297	0.172651934
6⅜	0.173233696	0.174180328	0.175137363	0.176104972
6½	0.176630435	0.177595628	0.178571429	0.179558011
6⅝	0.180027174	0.181010929	0.182005495	0.183011050
6¾	0.183423913	0.184426230	0.185439560	0.186464088
6⅞	0.186820652	0.187841530	0.188873626	0.189917127
7	0.190217391	0.191256831	0.192307692	0.193370166
7⅛	0.193614130	0.194672131	0.195741758	0.196823204
7¼	0.197010870	0.198087432	0.199175824	0.200276243
7⅜	0.200407609	0.201502732	0.202609890	0.203729282
7½	0.203804348	0.204918033	0.206043956	0.207182320
7⅝	0.207201087	0.208333333	0.209478022	0.210635359
7¾	0.210597826	0.211748634	0.212912088	0.214088398
7⅞	0.213994565	0.215163934	0.216346154	0.217541436
8	0.217391304	0.218579235	0.219780220	0.220994475
8⅛	0.220788043	0.221994536	0.223214286	0.224447514
8¼	0.224184783	0.225409836	0.226648352	0.227900552
8⅜	0.227581522	0.228825137	0.230082418	0.231353591
8½	0.230978261	0.232240437	0.233516484	0.234806630
8⅝	0.234375000	0.235655738	0.236950549	0.238259669
8¾	0.237771739	0.239071038	0.240384615	0.241712707
8⅞	0.241168478	0.242486339	0.243818681	0.245165746
9	0.244565217	0.245901639	0.247252747	0.248618785
9⅛	0.247961957	0.249316940	0.250686813	0.252071823
9¼	0.251358696	0.252732240	0.254120879	0.255524862
9⅜	0.254755435	0.256147541	0.257554945	0.258977901
9½	0.258152174	0.259562842	0.260989011	0.262430939
9⅝	0.261548913	0.262978142	0.264423077	0.265883978
9¾	0.264945652	0.266393443	0.267857143	0.269337017
9⅞	0.268342391	0.269808743	0.271291209	0.272790055
10	0.271739130	0.273224044	0.274725275	0.276243094
10⅛	0.275135870	0.276639344	0.278159341	0.279696133
10¼	0.278532609	0.280054645	0.281593407	0.283149171
10⅜	0.281929348	0.283469945	0.285027473	0.286602210
10½	0.285326087	0.286885246	0.288461538	0.290055249
10⅝	0.288722826	0.290300546	0.291895604	0.293508287
10¾	0.292119565	0.293715847	0.295329670	0.296961326
10⅞	0.295516304	0.297131148	0.298763736	0.300414365
11	0.298913043	0.300546448	0.302197802	0.303867403
11⅛	0.302309783	0.303961749	0.305631868	0.307320442
11¼	0.305706522	0.307377049	0.309065934	0.310773481
11⅜	0.309103261	0.310792350	0.312500000	0.314226519
11½	0.312500000	0.314207650	0.315934066	0.317679558
11⅝	0.315896739	0.317622951	0.319368132	0.321132597
11¾	0.319293478	0.321038251	0.322802198	0.324585635
11⅞	0.322690217	0.324453552	0.326236264	0.328038674
12	0.326086957	0.327868852	0.329670330	0.331491713
12⅛	0.329483696	0.331284153	0.333104396	0.334944751
12¼	0.332880435	0.334699454	0.336538462	0.338397790
12⅜	0.336277174	0.338114754	0.339972527	0.341850829
12½	0.339673913	0.341530055	0.343406593	0.345303867
12⅝	0.343070652	0.344945355	0.346840659	0.348756906
12¾	0.346467391	0.348360656	0.350274725	0.352209945
12⅞	0.349864130	0.351775956	0.353708791	0.355662983
13	0.353260870	0.355191257	0.357142857	0.359116022
13⅛	0.356657609	0.358606557	0.360576923	0.362569061
13¼	0.360054348	0.362021858	0.364010989	0.366022099
13⅜	0.363451087	0.365437158	0.367445055	0.369475138
13½	0.366847826	0.368852459	0.370879121	0.372928177
13⅝	0.370244565	0.372267760	0.374313187	0.376381215
13¾	0.373641304	0.375683060	0.377747253	0.379834254
13⅞	0.377038043	0.379098361	0.381181319	0.383287293
14	0.380434783	0.382513661	0.384615385	0.386740331
14⅛	0.383831522	0.385928962	0.388049451	0.390193370
14¼	0.387228261	0.389344262	0.391483516	0.393646409

TABLE 2—DECIMAL FOR ONE DAY'S INTEREST ON $1,000 AT VARIOUS RATES OF INTEREST, PAYABLE SEMIANNUALLY OR ON A SEMIANNUAL BASIS, IN REGULAR YEARS OF 365 DAYS AND IN YEARS OF 366 DAYS (TO DETERMINE APPLICABLE NUMBER OF DAYS, SEE TABLE 1)—Continued

Rate per annum (percent)	Half-year of 184 days	Half-year of 183 days	Half-year of 182 days	Half-year of 181 days
14⅜	0.390625000	0.392759563	0.394917582	0.397099448
14½	0.394021739	0.396174863	0.398351648	0.400552486
14⅝	0.397418478	0.399590164	0.401785714	0.404005525
14¾	0.400815217	0.403005464	0.405219780	0.407458564
14⅞	0.404211957	0.406420765	0.408653846	0.410911602
15	0.407608696	0.409836066	0.412087912	0.414364641
15⅛	0.411005435	0.413251366	0.415521978	0.417817680
15¼	0.414402174	0.416666667	0.418956044	0.421270718
15⅜	0.417798913	0.420081967	0.422390110	0.424723757
15½	0.421195652	0.423497268	0.425824176	0.428176796
15⅝	0.424592391	0.426912568	0.429258242	0.431629834
15¾	0.427989130	0.430327869	0.432692308	0.435082873
15⅞	0.431385870	0.433743169	0.436126374	0.438535912
16	0.434782609	0.437158470	0.439560440	0.441988950
16⅛	0.438179348	0.440573770	0.442994505	0.445441989
16¼	0.441576087	0.443989071	0.446428571	0.448895028
16⅜	0.444972826	0.447404372	0.449862637	0.452348066
16½	0.448369565	0.450819672	0.453296703	0.455801105
16⅝	0.451766304	0.454234973	0.456730769	0.459254144
16¾	0.455163043	0.457650273	0.460164835	0.462707182
16⅞	0.458559783	0.461065574	0.463598901	0.466160221
17	0.461956522	0.464480874	0.467032967	0.469613260
17⅛	0.465353261	0.467896175	0.470467033	0.473066298
17¼	0.468750000	0.471311475	0.473901099	0.476519337
17⅜	0.472146739	0.474726776	0.477335165	0.479972376
17½	0.475543478	0.478142077	0.480769231	0.483425414
17⅝	0.478940217	0.481557377	0.484203297	0.486878453
17¾	0.482336957	0.484972678	0.487637363	0.490331492
17⅞	0.485733696	0.488387978	0.491071429	0.493784530
18	0.489130435	0.491803279	0.494505495	0.497237569
18⅛	0.492527174	0.495218579	0.497939560	0.500690608
18¼	0.495923913	0.498633880	0.501373626	0.504143646
18⅜	0.499320652	0.502049180	0.504807692	0.507596685
18½	0.502717391	0.505464481	0.508241758	0.511049724
18⅝	0.506114130	0.508879781	0.511675824	0.514502762
18¾	0.509510870	0.512295082	0.515109890	0.517955801
18⅞	0.512907609	0.515710383	0.518543956	0.521408840
19	0.516304348	0.519125683	0.521978022	0.524861878
19⅛	0.519701087	0.522540984	0.525412088	0.528314917
19¼	0.523097826	0.525956284	0.528846154	0.531767956
19⅜	0.526494565	0.529371585	0.532280220	0.535220994
19½	0.529891304	0.532786885	0.535714286	0.538674033
19⅝	0.533288043	0.536202186	0.539148352	0.542127072
19¾	0.536684783	0.539617486	0.542582418	0.545580110
19⅞	0.540081522	0.543032787	0.546016484	0.549033149
20	0.543478261	0.546448087	0.549450549	0.552486188

3. Short First Payment Period

In cases where the first interest payment period for a fixed-principal security covers less than a full half-year period (a ''short coupon''), the daily interest decimal is multiplied by the number of days from, but not including, the issue date to, and including, the first interest payment date, resulting in the amount of the interest payable per $1,000 par amount. In cases where the par amount of securities is greater than $1,000, the appropriate multiple should be multiplied by the unrounded interest payment amount for $1,000 par amount.

Example. A 2-year fixed-principal note paying 8⅜% interest was issued on July 2, 1990, with the first interest payment on December 31, 1990. The number of days in the full half-year period of June 30 to December 31, 1990, was 184 (see Table 1). The number of days for which interest actually accrued was 182 (not including July 2, but including December 31). The daily interest decimal, $0.227581522 (see Table 2, line for 8⅜%, under the column for half-year of 184 days), was multiplied by 182, resulting in a payment of $41.419837004 per $1,000. Because the note was issued in a minimum denomination of $5,000, $41.419837004 was multiplied by 5, resulting in a payment of $207.099185020, or $207.10, for a $5,000 note.

For $20,000 of these notes, $41.419837004 would be multiplied by 20, resulting in a payment of $828.39674008 ($828.40).

4. Long First Payment Period

In cases where the first interest payment period for a fixed-principal security covers more than a full half-year period (a ''long coupon''), the daily interest decimal is multiplied by the number of days from, but not including, the issue date to, and including, the last day of the fractional period that ends one full half-year before the interest payment date. That amount is added to the regular interest amount for the full half-year ending on the first interest payment date, resulting in the amount of interest payable for $1,000 par amount. In cases where the par amount of securities is greater than $1,000, the appropriate multiple should be applied to the unrounded interest payment amount for $1,000 par amount.

Example. A 5-year 2-month fixed-principal note paying 7⅞% interest was issued on December 3, 1990, with the first interest payment due on August 15, 1991. Interest for the regular half-year portion of the payment was computed to be $39.375 per $1,000 par amount. The fractional portion of the payment, from December 3 to February 15, fell in a 184-day half-year (August 15, 1990, to February 15, 1991). Accordingly, the daily interest decimal for 7⅞% was $0.213994565. This decimal, multiplied by 74 (the number of days from but not including December 3, 1990, to and including February 15), resulted in interest for the fractional portion of $15.835597810. When added to $39.375 (the normal interest payment portion ending on August 15, 1991), this produced a first interest payment of $55.210597810, or $55.21 per $1,000 par amount. For $7,000 par amount of these notes, $55.210597810 would be multiplied by 7, resulting in an interest payment of $386.474184670 ($386.47).

B. Treasury Inflation-Indexed Securities

1. Indexing Process

Interest on marketable Treasury inflation-indexed securities is payable on a semi-annual basis. The inflation-indexed securities are issued with a stated rate of interest which remains constant for the term of the particular security. Interest payments are based on the security's inflation-adjusted principal at the time interest is paid. This adjustment is made by multiplying the par amount of the security by the applicable Index Ratio.

2. Index Ratio

The numerator of the Index Ratio, the Ref CPI_{Date}, is the index number applicable for a specific day, and the denominator of the Index Ratio is the Ref CPI applicable for the original issue date. However, when the dated date is different from the original issue date, the denominator is the Ref CPI applicable for the dated date. The formula for calculating the Index Ratio is:

$$\text{Index Ratio}_{\text{Date}} = \frac{\text{Ref CPI}_{\text{Date}}}{\text{Ref CPI}_{\text{Issue Date}}}$$

Where Date = valuation date

3. Reference CPI

The Ref CPI for the first day of any calendar month is the CPI for the third preceding calendar month. For example, the Ref CPI applicable to April 1 in any year is the CPI for January, which is reported in February. The Ref CPI for any other day of a month is determined by a linear interpolation between the Ref CPI applicable to the first day of the month in which such day falls (in the example, January) and the Ref CPI applicable to the first day of the next month (in the example, February). For purposes of interpolation, calculations with regard to the Ref CPI and the Index Ratio for a specific date will be truncated to six decimal places and rounded to five decimal places such that the Ref CPI and the Index Ratio for that date will be expressed to five decimal places. The formula for the Ref CPI for a specific date is:

$$\text{Ref CPI}_{\text{Date}} = \text{Ref CPI}_{\text{M}} + \frac{t-1}{D}\left[\text{Ref CPI}_{\text{M+1}} - \text{Ref CPI}_{\text{M}}\right]$$

Where Date = valuation date

D = the number of days in the month in which Date falls

t = the calendar day corresponding to Date

CPI_M = CPI reported for the calendar month M by the Bureau of Labor Statistics

Ref CPI_M = Ref CPI for the first day of the calendar month in which Date falls, e.g., Ref $CPI_{April\ 1}$ is the $CPI_{January}$

Ref $CPI_{M=1}$ = Ref CPI for the first day of the calendar month immediately following Date

For example, the Ref CPI for April 15, 1996 is calculated as follows:

$$\text{Ref CPI}_{\text{April 15, 1996}} = \text{Ref CPI}_{\text{April 1, 1996}} + \frac{14}{30}\left[\text{Ref CPI}_{\text{May 1, 1996}} - \text{Ref CPI}_{\text{April 1, 1996}}\right]$$

Where Date = 30, t = 15

$\text{Ref CPI}_{\text{April 1, 1996}}$ = 154.40, the non-seasonally adjusted CPI–U for January 1996.

$\text{Ref CPI}_{\text{May 1, 1996}}$ = 154.90, the non-seasonally adjusted CPI–U for February 1996.

Putting these values in the equation above:

$$\text{Ref CPI}_{\text{April 15, 1996}} = 154.40 + \frac{14}{30}[154.90 - 154.40] \quad \text{Ref CPI}_{\text{April 15, 1996}} = 154.633333333$$

This value truncated to six decimals is 154.633333; rounded to five decimals it is 154.63333.

To calculate the Index Ratio for April 16, 1996, for an inflation-indexed security issued on April 15, 1996, the $\text{Ref CPI}_{\text{April 16, 1996}}$ must first be calculated. Using the same values in the equation above except that t=16, the $\text{Ref CPI}_{\text{April 16,1996}}$ is 154.65000.

The Index Ratio for April 16, 1996 is:

$\text{Index Ratio}_{\text{April 16, 1996}}$ = 154.65000/154.63333 = 1.000107803.

This value truncated to six decimals is 1.000107; rounded to five decimals it is 1.00011.

4. Index Contingencies

If a previously reported CPI is revised, Treasury will continue to use the previously reported CPI in calculating the principal value and interest payments.

If the CPI is rebased to a different year, Treasury will continue to use the CPI based on the base reference period in effect when the security was first issued, as long as that CPI continues to be published.

If, while an inflation-indexed security is outstanding, the applicable CPI is: (1) discontinued, (2) in the judgment of the Secretary, fundamentally altered in a manner materially adverse to the interests of an investor in the security, or (3) in the judgment of the Secretary, altered by legislation or Executive Order in a manner materially adverse to the interests of an investor in the security, Treasury, after consulting with the Bureau of Labor Statistics, or any successor agency, will substitute an appropriate alternative index. Treasury will then notify the public of the substitute index and how it will be applied. Determinations of the Secretary in this regard will be final.

If the CPI for a particular month is not reported by the last day of the following month, the Treasury will announce an index number based on the last twelve-month change in the CPI available. Any calculations of the Treasury's payment obligations on the inflation-indexed security that rely on that month's CPI will be based on the index number that the Treasury has announced. For example, if the CPI for month M is not reported timely, the formula for calculating the index number to be used is:

$$\text{CPI}_{\text{M}} = \text{CPI}_{\text{M-1}} \times \left[\frac{\text{CPI}_{\text{M-1}}}{\text{CPI}_{\text{M-13}}}\right]^{\frac{1}{12}}$$

Generalizing for the last reported CPI issued N months prior to month M:

$$\text{CPI}_{\text{M}} = \text{CPI}_{\text{M-N}} \times \left[\frac{\text{CPI}_{\text{M-N}}}{\text{CPI}_{\text{M-N-12}}}\right]^{\frac{N}{12}}$$

If it is necessary to use these formulas to calculate an index number, it will be used for all subsequent calculations that rely on that month's index number and will not be replaced by the actual CPI when it is reported, except for use in the above formulas. When it becomes necessary to use the above formulas to derive an index number, the last CPI that has been reported will be used to calculate CPI numbers for months for which the CPI has not been reported timely.

5. Computation of Interest for a Regular Half-Year Payment Period

Interest on marketable Treasury inflation-indexed securities is payable on a semi-annual basis. The regular interest payment period is a full half-year or six calendar months. Examples of half-year periods are January 15 to July 15, and April 15 to October 15. An interest payment will be a fixed

percentage of the value of the inflation-adjusted principal, in current dollars, for the date on which it is paid. Interest payments will be calculated by multiplying one-half of the specified annual interest rate for the inflation-indexed securities by the inflation-adjusted principal for the interest payment date. Specifically, a semiannual interest payment is computed on the basis of one-half of one year's interest regardless of the actual number of days in the half-year.

Example. A 10-year inflation-indexed note paying 3% interest was issued on July 15, 1996, with the first interest payment on January 15, 1997. The Ref CPI on July 15, 1996 (Ref $CPI_{Issue\ Date}$) was 120, and the Ref CPI on January 15, 1997 (Ref CPI_{Date}) was 132. For a par amount of $100,000, the inflation-adjusted principal on January 15, 1997, was (132/120) × $100,000, or $110,000. This amount was then multiplied by .03/2, or .015, resulting in a payment of $1,650.00.

C. Accrued Interest

Accrued interest will be payable by the purchaser of a Treasury bond or note when interest accrues prior to the issue date of the security. Because the purchaser receives a full interest payment despite having held the security for only a portion of the interest payment period, the Department is compensated through the payment of accrued interest at settlement.

For a fixed-principal security, if accrued interest covers a fractional portion of a full half-year period, the number of days in the full half-year period and the stated interest rate will determine the daily interest decimal to be used in computing the accrued interest. The decimal is multiplied by the number of days for which interest has accrued. If a reopened fixed-principal security has a long first interest payment period (a ''long coupon''), and the dated date for the reopened issue is less than six full months before the first interest payment, the accrued interest will fall into two separate half-year periods, and a separate daily interest decimal must be multiplied by the respective number of days in each half-year period during which interest has accrued. All accrued interest computations are rounded to five decimal places for a $1,000 inflation-adjusted principal, using normal rounding procedures. Accrued interest for a par amount of securities greater than $1,000 is calculated by applying the appropriate multiple to accrued interest payable for $1,000 par amount, rounded to five decimal places.

For an inflation-indexed security, accrued interest will be calculated as shown in section III, paragraphs A and B of this appendix.

Examples. (1) *Fixed-Principal Securities*—(i) *Involving One Half-Year:* A bond paying interest at a rate of 8¾%, originally issued on August 15, 1990, as a 30-year bond with a first interest payment date of February 15, 1991, was reopened as a 29-year 9-month bond on November 15, 1990. Interest had accrued for 92 days, from August 15 to November 15. The regular interest period from August 15 to February 15, 1991, covered 184 days. Accordingly, the daily interest decimal, $0.237771739, multiplied by 92, resulted in accrued interest payable of $21.874999988, or $21.87500, for each $1,000 bond purchased. If the bonds have a par amount of $150,000, then 150 is multiplied by $21.87500, resulting in an amount payable of $3,281.25.

(ii) *Involving Two Half-Years:* A 10¾% bond, originally issued on July 2, 1985, as a 20-year 1-month bond, with a first interest payment date of February 15, 1986, was reopened as a 19-year 10-month bond on November 4, 1985. Interest had accrued for 44 days, from July 2 to August 15, 1985, during a 181-day half-year (February 15 to August 15); and for 81 days, from August 15 to November 4, during a 184-day half-year (August 15, 1985, to February 15, 1986). Accordingly, $0.296961326 was multiplied by 44, and $0.292119565 was multiplied by 81, resulting in products of $13.066298344 and $23.661684765 which, added together, resulted in accrued interest payable of $36.727983109, or $36.72798, for each $1,000 bond purchased. If the bonds have a par amount of $11,000, then 11 is multiplied by $36.72798, resulting in an amount payable of $404.00778 ($404.01).

II. Formulas for Conversion of Fixed-Principal Security Yields to Equivalent Prices

Definitions

P=price per 100 (dollars), rounded to three places, using normal rounding procedures

C=the regular annual interest per $100, payable semiannually, e.g., 10.125 (the dollar equivalent of a 10⅛% interest rate)

i=nominal annual rate of return or yield to maturity, based on semiannual interest payments and expressed in decimals, e.g., .0719

n=number of full semiannual periods from the issue date to maturity, except that, if the issue date is a coupon frequency date, n will be one less than the number of full semiannual periods remaining to maturity. Coupon frequency dates are the two semiannual dates based on the maturity date of each note or bond issue. For example, a security maturing on November 15, 1995, would have coupon frequency dates of May 15 and November 15.

r=(1) number of days from the issue date to the first interest payment (regular or short first payment period), or (2) number of days in fractional portion (or ''initial short period'') of long first payment period

s=(1) number of days in the full semiannual period ending on the first interest payment date (regular or short first payment period), or (2) number of days in the full

semiannual period in which the fractional portion of a long first payment period falls, ending at the onset of the regular portion of the first interest payment

$v^n=1/[1+(i/2)]^n$=present value of 1 due at the end of n periods

$a_n=(1-v^n)/(i/2)=v+v^2+v^3+ \ . \ . \ . \ +v^n$=present value of 1 per period for n periods

A=accrued interest

A. *For fixed-principal securities with a regular first interest payment period:*

Formula:

$P[1+(r/s)(i/2)]=(C/2)(r/s)+(C/2)a_n+100\ v^n$

Example:

For an 8¾% 30-year bond, issued May 15, 1990, due May 15, 2020, with interest payments on November 15 and May 15, solve for the price per 100 (P) at a yield of 8.84%.

Definitions:

C=8.75
i=.0884
r=184 (May 15 to November 15, 1990)
s=184 (May 15 to November 15, 1990)
n=59 (There are 60 full semiannual periods, but n is reduced by 1 because the issue date is a coupon frequency date.)
$v^n=1/[(1+.0884/2)]^{59}$, or .077940
$a_n=(1-.077940)/.0442$, or 20.861086

Resolution:

$P[1+(r/s)(i/2)]=(C/2)(r/s)+(C/2)a^n+100\ v^n$ or
$P[1+(184/184)(.0884/2)]=(8.75/2)(184/184)+(8.75/2)(20.861086)+100(.077940)$
(1) P[1+.0442]=4.375+91.267251+7.7940
(2) P[1.0442]=103.436251
(3) P=103.436251÷1.0442
(4) P=99.057892
(5) P=99.058

B. *For fixed-principal securities with a short first interest payment period:*

Formula:

$P[1+(r/s)(i/2)]=(C/2)(r/s)+(C/2)a_n+100\ v^n$

Example:

For an 8½% 2-year note, issued April 2, 1990, due March 31, 1992, with interest payments on September 30 and March 31, solve for the price per 100 (P) at a yield of 8.59%.

Definitions:

C=8.50
i=.0859
n=3
r=181 (April 2 to September 30, 1990)
s=183 (March 31 to September 30, 1990)
$v^n=1/[(1+.0859/2)]^3$, or .881474
$a_n=(1-.881474)/.04295$, or 2.759627

Resolution:

$P[1+(r/s)(i/2)]=(C/2)(r/s)+(C/2)a_n+100\ v^n$ or
$P[1+(181/183)(.0859/2)]=(8.50/2)(181/183)+(8.50/2)(2.759627)+100(.881474)$
(1) P[1+.042481]=4.203552+ 11.728415+88.1474
(2) P[1.042481]=104.079367
(3) P=104.079367÷1.042481
(4) P=99.838143
(5) P=99.838

C. *For fixed-principal securities with a long first interest payment period:*

Formula:

$P[1+(r/s)(i/2)]=[(C/2)(r/s)]v+(C/2)a_n+100\ v^n$

Example:

For an 8½% 5-year 2-month note, issued March 1, 1990, due May 15, 1995, with interest payments on November 15 and May 15 (first payment on November 15, 1990), solve for the price per 100 (P) at a yield of 8.53%.

Definitions:

C=8.50
i=.0853
n=10
r=75 (March 1 to May 15, 1990, which is the fractional portion of the first interest payment)
s=181 (November 15, 1989, to May 15, 1990)
v=1/(1+.0853/2), or .959095
$v^n=1/(1+.0853/2)^{10}$, or .658589
$a_n=(1-.658589)/.04265$, or 8.004947

Resolution:

$P[1+(r/s)(i/2)]=[(C/2)(r/s)]v+(C/2)a_n+100\ v^n$ or
$P[1+(75/181)(.0853/2)]=[(8.50/2)(75/181)]$ .959095+(8.50/2)(8.004947)+100(.658589)
(1) P[1+.017673]=1.689014+ 34.021025+65.8589
(2) P[1.017673]=101.568939
(3) P=101.568939÷1.017673
(4) P=99.805084
(5) P=99.805

D. (1) *For fixed-principal securities reopened during a regular interest period where the purchase price includes predetermined accrued interest.*

(2) *For new fixed-principal securities accruing interest from the coupon frequency date immediately preceding the issue date, with the interest rate established in the auction being used to determine the accrued interest payable on the issue date.*

Formula:

$(P+A)[1+(r/s)(i/2)]=C/2+(C/2)a_n+100\ v^n$

Where: $A=[(s-r)/s](C/2)$

Example:

For a 9½% 10-year note, interest accruing from November 15, 1985, issued November 29, 1985, due November 15, 1995, with interest payments on May 15 and November 15, solve for the price per 100 (P) at a yield of 9.54%. Accrued interest is from November 15 to November 29 (14 days).

Definitions:

C=9.50
i=.0954
n=19
r=167 (November 29, 1985, to May 15, 1986)
s=181 (November 15, 1985, to May 15, 1986)
$v^n=1/[(1+.0954/2)]^{19}$, or .412570400
$a_n=(1-.412570)/.0477$, or 12.315094
$A=[181-167)/181](9.50/2)$, or .367403

Resolution:

$(P+A)[1+(r/s)(i/2)]=C/2+(C/2)a_n+100\ v^n$ or

(P+.367403)[1+(167/181)(.0954/2)]=(9.50/2)+(9.50/2)(12.315094)+100(.412570)
(1) (P+.367403)[1+.044011]=4.75+58.496697+41.2570
(2) (P+.367403)[1.044011]=104.503697
(3) (P+.367403)=104.503697÷1.044011
(4) (P+.367403)=100.098272
(5) P=100.098272–.367403
(6) P=99.730869
(7) P=99.731

E. *For fixed-principal securities reopened during the regular portion of a long first payment period:*

Formula:

$(P+A)[1+(r/s)(i/2)]=(r'/s'')(C/2)+C/2+(C/2)a_n+100\ v^n$

Where:

A=AI′+AI
AI′=(r′/s″)(C/2)
AI=[(s−r)/s](C/2)

and

r=number of days from the reopening date to the first interest payment date
s=number of days in the semiannual period for the regular portion of the first interest payment period
r′=number of days in the fractional portion (or ''initial short period'') of the first interest payment period
s″=number of days in the semiannual period ending with the commencement date of the regular portion of the first interest payment period

Example:

A 10¾% 19-year 9-month bond due August 15, 2005, is issued on July 2, 1985, and reopened on November 4, 1985, with interest payments on February 15 and August 15 (first payment on February 15, 1986), solve for the price per 100 (P) at a yield of 10.47%. Accrued interest is calculated from July 2 to November 4.

Definitions:

C=10.75
i=.1047
n=39
r=103 (November 4, 1985, to February 15, 1986)
s=184 (August 15, 1985, to February 15, 1986)
r′=44 (July 2 to August 15, 1985)
s″=181 (February 15 to August 15, 1985)
$v^n=1/[(1+.1047/2)]^{39}$, or .136695
$a_n=(1-.136695)/.05235$, or 16.491022
AI′=(44/181)(10.75/2), or 1.306630
AI′=[(184−103)/184](10.75/2), or 2.366168
A=AI′+AI, or 3.672798

Resolution:

$(P+A)[1+(r/s)(i/2)]=(r'/s'')(C/2)+C/2+(C/2)a_n+100v^n$ or
(P+3.672798)[1+(103/184)(.1047/2)]=(44/181)(10.75/2)+10.75/2+(10.75 /2)(16.491022)+100(.136695)
(1) (P+3.672798)[1+.029305]=1.306630 + 5.375+88.639243+13.6695
(2) (P+3.672798)[1.029305]=108.990373
(3) (P+3.672798)=108.990373÷1.029305
(4) (P+3.672798)=105.887344
(5) P=105.887344−3.672798
(6) P=102.214546
(7) P=102.215

F. *For fixed-principal securities reopened during a short first payment period:*

Formula:

$(P+A)[1+(r/s)(i/2)]=(r'/s)(C/2)+(C/2)a_n+100\ v^n$

Where:

A=[(r′−r)/s](C/2)

and

r′=number of days from the original issue date to the first interest payment date

Example:

For a 10½% 8-year note due May 15, 1991, originally issued on May 16, 1983, and reopened on August 15, 1983, with interest payments on November 15 and May 15 (first payment on November 15, 1983), solve for the price per 100 (P) at a yield of 10.53%. Accrued interest is calculated from May 16 to August 15.

Definitions:

C=10.50
i=.1053
n=15
r=92 (August 15, 1983, to November 15, 1983)
s=184 (May 15, 1983, to November 15, 1983)
r′=183 (May 16, 1983, to November 15, 1983)
$v^n=1/[(1+.1053/2)]^{15}$, or .463170
$a_n=(1-.463170)\ /\ .05265$, or 10.196201
A=[(183−92) / 184](10.50/2), or 2.596467

Resolution:

$(P+A)[1+(r/s)(i/2)]=(r'/s)(C/2)+(C/2)a_n+100\ v^n$ or
(P + 2.596467)[1 + (92/184)(.1053/2)] = (183/184)(10.50/2) + (10.50/2)(10.196201) + 100(.463170)
(1) (P + 2.596467)[1 + .026325] = 5.221467 + 53.530055 + 46.3170
(2) (P+2.596467)[1.026325]=105.068522
(3) (P+2.596467)+105.068522÷1.026325
(4) (P+2.596467)=102.373539
(5) P=102.373539−2.596467
(6) P=99.777072
(7) P=99.777

G. *For fixed-principal securities reopened during the fractional portion (initial short period) of a long first payment period:*

Formula:

$(P+A)[1+(r/s)(i/2)]=[(r'/s)(C/2)]v+(C/2)a_n+100\ v^n$

Where:

A=[(r′−r)/s](C/2)

and

r=number of days from the reopening date to the end of the short period
r′=number of days in the short period
s=number of days in the semiannual period ending with the end of the short period

Example:

For a 9¾% 6-year 2-month note due December 15, 1994, originally issued on October 15,

1988, and reopened on November 15, 1988, with interest payments on June 15 and December 15 (first payment on June 15, 1989), solve for the price per 100 (P) at a yield of 9.79%. Accrued interest is calculated from October 15 to November 15.

Definitions:

C=9.75
i=.0979
n=12
r=30 (November 15, 1988, to December 15, 1988)
s=183 (June 15, 1988, to December 15, 1988)
r'=61 (October 15, 1988, to December 15, 1988)
v=1/(1+.0979/2), or .953334
v^n=[1/(1+.0979/2)]^{12}, or .563563
a_n=(1−.563563)/.04895, or 8.915975
A=[(61−30)/183](9.75/2), or .825820

Resolution:

$(P+A)[1+(r/s)(i/2)]=[(r'/s)(C/2)]v+(C/2)a_n+100\ v^n$ or

(P+.825820)[1+(30/183)(.0979/2)]=[(61/183)(9.75/2)](.953334)+(9.75/2)(8.915975)+100(.563563)

(1) (P+.825820)[1+.008025]=1.549168+43.465378+56.3563
(2) (P+.825820)[1.008025]=101.370846
(3) (P+.825820)=101.370846÷1.008025
(4) (P+.825820)=100.563821
(5) P=100.563821−.825820
(6) P=99.738001
(7) P=99.738

III. FORMULAS FOR CONVERSION OF INFLATION-INDEXED SECURITY YIELDS TO EQUIVALENT PRICES

Definitions

P = unadjusted or real price per 100 (dollars)
P_{adj} = inflation adjusted price; P × Index $Ratio_{Date}$
A = unadjusted accrued interest per $100 original principal
A_{adj} = inflation adjusted accrued interest; A × Index $Ratio_{Date}$
SA = settlement amount including accrued interest in current dollars per $100 original principal; $P_{adj} + A_{adj}$
r = days from settlement date to next coupon date
s = days in current semiannual period
i = real yield, expressed in decimals (e.g., 0.0325)
C = real annual coupon, payable semiannually, in terms of real dollars paid on $100 initial, or real, principal of the security
n = number of full semiannual periods from issue date to maturity date, except that, if the issue date is a coupon frequency date, n will be one less than the number of full semiannual periods remaining until maturity. Coupon frequency dates are the two semiannual dates based on the maturity date of each note or bond issue. For example, a security maturing on July 15, 2026 would have coupon frequency dates of January 15 and July 15.
$v^n = 1/(1 + i/2)^n$ = present value of 1 due at the end of n periods

$a_{n\rceil} = (1-v^n)/(i/2) = v + v^2 + v^3 + \cdots + v^n$
= present value of 1 per period for n periods

Date = valuation date
D = the number of days in the month in which Date falls
t = calendar day corresponding to Date
CPI = Consumer Price Index number
CPI_M = CPI reported for the calendar month M by the Bureau of Labor Statistics
Ref CPI_M = reference CPI for the first day of the calendar month in which Date falls, e.g., Ref CPI_{April1} is the $CPI_{January}$
Ref $CPI_{M=1}$ = reference CPI for the first day of the calendar month immediately following Date
Ref CPI_{Date} = Ref CPI_M + [(t − 1)/D][Ref $CPI_{M=1}$ − Ref CPI_M]
Index $Ratio_{Date}$ = Ref CPI_{Date}/Ref $CPI_{IssueDate}$

A. *For inflation-indexed securities with a regular first interest payment period:*

Formulas:

$$P = \frac{(C/2) + (C/2)a_{n\rceil} + 100v^n}{1 + (r/s)(i/2)} - [(s-r)/s](C/2)$$

$P_{adj} = P \times \text{Index } Ratio_{Date}$
$A = [(s - r)/s] \times (C/2)$
$A_{adj} = A \times \text{Index } Ratio_{Date}$
$SA = P_{adj} + A_{adj}$
Index $Ratio_{Date}$ = Ref CPI_{Date}/Ref $CPI_{Issue\ Date}$

Example. The Treasury issues a 10-year inflation-indexed note on July 15, 1996. The note is issued at a discount to yield 3.1% (real). The note bears a 3% real coupon, payable on January 15 and July 15 of each year. The base CPI index applicable to this note is 120.[1] Calculate the settlement amount.

Definitions:

C = 3.00
i = 0.0310

[1] This number is normally derived using the interpolative process described in appendix B, section I, paragraph B.

n = 19 (There are 20 full semiannual periods but n is reduced by 1 because the issue date is a coupon frequency date.)
r = 184 (July 15, 1996 to January 15, 1997)
s = 184 (July 15, 1996 to January 15, 1997)
Ref CPI_{Date} = 120
Ref $CPI_{IssueDate}$ = 120

Resolution:

Index $Ratio_{Date}$ = Ref CPI_{Date}/Ref $CPI_{Issue\ Date}$ = 120/120 = 1
$A = [(184 - 184)/184] \times 3/2 = 0$
$A_{adj} = 0 \times 1 = 0$
$v^n = 1/(1 + i/2)^n = 1/(1 + .031/2)^{19} = 0.74658863$

$$a_{n\rceil} = (1 - v^n)/(i/2) = (1 - 0.74658863)/(.031/2) = 16.34912065$$

$$P = \frac{(C/2) + (C/2)a_{n\rceil} + 100v^n}{1 + (r/s)(i/2)} - [(s - r)/s](C/2)$$

$$P = \frac{(3/2) + (3/2)(16.34912065) + 100(0.74658863)}{1 + (184/184)(0.031/2)} - [(184 - 184)/184](3/2)$$

$$P = \frac{1.5 + 24.52368098 + 74.658863}{1.01550000} - 0$$

$$P = \frac{100.68254398}{1.01550000}$$

P = 99.145784
P = 99.146
$P_{adj} = P \times$ Index $Ratio_{Date}$
$P_{adj} = 99.146 \times 1 = 99.146$
$SA = P_{adj} + A_{adj}$;
SA = 99.146 + 0 = 99.146

NOTE: For the real price (P), Treasury has rounded to three places. These amounts are based on 100 par value.

B. *For inflation-indexed securities reopened during a regular interest period where the purchase price includes predetermined accrued interest:*

Bidding:

The dollar amount of each bid is in terms of the par amount. For example, if the Ref CPI applicable to the issue date of the note is 120, and the reference CPI applicable to the reopening issue date is 132, a bid of $10,000 × (132/120), or $11,000.

Formulas:

$$P = \frac{(C/2) + (C/2)a_{n\rceil} + 100v^n}{1 + (r/s)(i/2)} - [(s - r)/s](C/2)$$

$P_{adj} = P \times$ Index $Ratio_{Date}$
$A = [(s - r)/s] \times (C/2)$
$A_{adj} = A \times$ Index $Ratio_{Date}$
$SA = P_{adj} + A_{adj}$
Index $Ratio_{Date}$ = Ref CPI_{Date}/Ref $CPI_{IssueDate}$

Example. A 3% 10-year inflation-indexed note was issued July 15, 1996, due July 15, 2006, with interest payments on January 15 and July 15. For a reopening on April 15, 1997, with inflation compensation accruing from July 15, 1996 to April 15, 1997, and accrued interest accruing from January 15, 1997 to April 15, 1997 (90 days), solve for the price per 100 (P) at a real yield, as determined in the reopening auction, of 3.40%. The base index applicable to the issue date of this note is 120 and the reference CPI applicable to April 15, 1997, is 132.

Definitions:

C = 3.00
i = 0.0340
n = 18
r = 91 (April 15, 1997 to July 15, 1997)
s = 181 (January 15, 1997 to July 15, 1997)
Ref CPI_{Date} = 132
Ref $CPI_{Issue\ Date}$ = 120

Resolution:

Index Ratio$_{Date}$ = Ref CPI$_{Date}$/Ref CPI$_{Issue\ Date}$ = 132/120 = 1.100

$v^n = 1/(1 + i/2)^n = 1/(1 + .0340/2)^{18} = 0.73828296$

$a_{n\rceil} = (1 - v^n)/(i/2) = (1 - 0.73828296)/(.0340/2) = 15.39512000$

$$P = \frac{(C/2) + (C/2)a_{n\rceil} + 100v^n}{1 + (r/s)(i/2)} - [(s - r)/s](C/2)$$

$$P = \frac{(3/2) + (3/2)(15.39512000) + 100(0.73828296)}{1 + (91/181)(0.0340/2)} - [(181 - 91)/181](3/2)$$

$$P = \frac{1.5 + 23.09268 + 73.828296}{1.00854696} - (90/181)(1.5)$$

$$P = \frac{98.420976}{1.00854696} - 0.745856$$

P = 97.586905 − 0.745856
P = 96.841049
P = 96.841
$P_{adj} = P \times \text{Index Ratio}_{Date}$
$P_{adj} = 96.841 \times 1.100 = 106.5251$
$P_{adj} = 106.525$
$A = [(181 - 91)/181] \times 3/2 = 0.745856$
$A_{adj} = A \times \text{Index Ratio}_{Date}$
$A_{adj} = 0.745856 \times 1.100 = 0.820442$
$SA = P_{adj} + A_{adj} = 106.525 + 0.820442$
SA = 107.345442

NOTE: For the real price (P), and the inflation-adjusted price (P_{adj}), Treasury has rounded to three places. For accrued interest (A) and adjusted accrued interest (A_{adj}), Treasury has rounded to six places. These amounts are based on 100 par value.

IV. Computation of Adjusted Values and Payment Amounts for Stripped Inflation-Indexed Interest Components

NOTE: Valuing an interest component stripped from an inflation-indexed security at its adjusted value enables this interest component to be interchangeable (fungible) with other interest components that have the same maturity date, regardless of the underlying inflation-indexed security from which the interest components were stripped. The adjusted value provides for fungibility of these various interest components when buying, selling, or transferring them, or when reconstituting an inflation-indexed security.

Definitions

C=the regular annual interest rate, payable semiannually, e.g., .03625 (the decimal equivalent of a 3–5/8% interest rate)
Par=par amount of the security to be stripped
Ref CPI$_{Issue\ Date}$=reference CPI for the original issue date (or dated date, when the dated date is different from the original issue date) of the underlying (unstripped) security
Ref CPI$_{Date}$=reference CPI for the maturity date of the interest component
AV=adjusted value of the interest component
PA=payment amount at maturity by Treasury

Formulas

AV=Par (C/2)(100/Ref CPI$_{Issue\ Date}$) (rounded to 2 decimals with no intermediate rounding)
PA=AV (Ref CPI$_{Date}$/100) (rounded to 2 decimals with no intermediate rounding)

Example. A 10-year inflation-indexed note paying 3½% interest is issued on January 15, 1999, with the second interest payment on January 15, 2000. The Ref CPI on January 15, 1999 (Ref CPI$_{Issue\ Date}$) is 174.62783, and the Ref CPI on January 15, 2000 (Ref CPI$_{Date}$) is 179.86159. Calculate the adjusted value and the payment amount at maturity of the interest component.

Definitions

C=.035
Par=$1,000,000
Ref CPI$_{Issue\ Date}$=174.62783
Ref CPI$_{Date}$=179.86159

Resolution

For a par amount of $1 million, the adjusted value of each stripped interest component is $1,000,000 (.035/2)(100/174.62783), or $10,021.31 (no intermediate rounding).

For an interest component maturing on January 15, 2000, the payment amount is

$10,021.31 (179.86159/100), or $18,024.49 (no intermediate rounding).

V. COMPUTATION OF PURCHASE PRICE, DISCOUNT RATE, AND INVESTMENT RATE (COUPON-EQUIVALENT YIELD) FOR TREASURY BILLS

A. *Conversion of the discount rate to a purchase price for Treasury bills of all maturities:*

Formula:

P=100 [(1 − dr)/360]

Where:

d=discount rate, in decimals
r=number of days remaining to maturity
P=price per 100 (dollars)

Example:

For a bill issued November 24, 1989, due February 22, 1990, at a discount rate of 7.61%, solve for price per 100 (P).

Definitions:

d=.0761
r=90 (November 24, 1989 to February 22, 1990)

Resolution:

P=100 [(1 − dr)/360]
(1) P=100 [1 − (.0761)(90)/360]
(2) P=100 (1 − .019025)
(3) P=100 (.980975)
(4) P=98.0975
(5) P=98.098

NOTE: Purchase prices per $100 are rounded to three decimal places, using normal rounding procedures.

B. *Computation of purchase prices and discount amounts based on price per $100, for Treasury bills of all maturities:*

1. To determine the purchase price of any bill, divide the par amount by 100 and multiply the resulting quotient by the price per $100.

Example. To compute the purchase price of a $10,000 13-week bill sold at a price of $98.098 per $100, divide the par amount ($10,000) by 100 to obtain the multiple (100). That multiple times 98.098 results in a purchase price of $9,809.80.

2. To determine the discount amount for any bill, subtract the purchase price from the par amount of the bill.

Example. For a $10,000 bill with a purchase price of $9,809.80, the discount amount would be $190.20, or $10,000 − $9,809.80.

C. *Conversion of prices to discount rates for Treasury bills of all maturities:*

Formula:

$$d = \left[\frac{100 - P}{100} \times \frac{360}{r}\right]$$

Where:

P=price per 100 (dollars)
d=discount rate
r=number of days remaining to maturity

Example:

For a 26-week bill issued December 30, 1982, due June 30, 1983, with a price of $95.930, solve for the discount rate (d).

Definitions:

P=95.930
r=182 (December 30, 1982, to June 30, 1983)

Resolution:

$$d = \left[\frac{100 - P}{100} \times \frac{360}{r}\right]$$

$$d = \left[\frac{100 - 95.930}{100} \times \frac{360}{182}\right] \quad (1)$$

(2) d=[.0407×1.978022]
(3) d=.080506
(4) d=8.051%

NOTE: Prior to April 18, 1983, all bills were sold in price-basis auctions, in which discount rates calculated from prices were rounded to three places, using normal rounding procedures. Since that time, all bills have been sold only on a discount rate basis. For regular Treasury bills—13-, 26-, and 52-week bills—discount rates bid were submitted with two decimals in increments of .01 percent, e.g., 5.32, until 1997, when Treasury instituted a change to three decimal bidding in increments of .005 percent, e.g., 5.320 or 5.325.

D. *Calculation of investment rate (coupon-equivalent yield) for Treasury bills:*

1. For bills of not more than one half-year to maturity:

Formula:

$$i = \left[\frac{100 - P}{P} \times \frac{y}{r}\right]$$

Where:

i=investment rate, in decimals
P=price per 100 (dollars)
r=number of days remaining to maturity
y=number of days in year following the issue date; normally 365 but, if the year following the issue date includes February 29, then y is 366.

Example:

For a cash management bill issued June 1, 1990, due June 21, 1990, with a price of $99.559 (computed from a discount rate of 7.93%), solve for the investment rate (i).

Definitions:

P=99.559
r=20 (June 1, 1990, to June 21, 1990)
y=365

Resolution:

$$i = \left[\frac{100 - P}{P} \times \frac{y}{r}\right]$$

$$(1)\quad i = \left[\frac{100 - 99.559}{99.559} \times \frac{365}{20}\right]$$

$$(2)\quad i = [.004430 \times 18.25]$$

$$(3)\quad i = .080848$$

$$(4)\quad i = 8.08\%$$

(2) i=[.004430×18.25]
(3) i=.080848
(4) i=8.08%

2. For bills of more than one half-year to maturity:

Formula: $P[1+(r-y/2)(i/y)](1+i/2) = 100$

This formula must be solved by using the quadratic equation, which is:

$ax^2+bx+c=0$

Therefore, rewriting the bill formula in the quadratic equation form gives:

$$\left[\frac{r}{2y} - .25\right] i^2 + \left(\frac{r}{y}\right) i + \left(\frac{P - 100}{P}\right) = 0$$

and solving for ''i'' produces:

$$i = \frac{-b + \sqrt{b^2 - 4ac}}{2a}$$

Where:

i=investment rate in decimals
b=r/y
a=(r/2y)−.25
c=(P−100)/P
P=price per 100 (dollars)
r=number of days remaining to maturity
y=number of days in year following the issue date; normally 365, but if the year following the issue date includes February 29, then y is 366.

Example:

For a 52-week bill issued June 7, 1990, due June 6, 1991, with a price of $92.265 (computed from a discount rate of 7.65%), solve for the investment rate (i).

Definitions:

r=364 (June 7, 1990, to June 6, 1991)
y=365
P=92.265
b=364/365, or .997260
a=(364/730)−.25, or .24863
c=(92.265−100)/92.265, or −.083835

Resolution:

$$i = \frac{-b + \sqrt{b^2 - 4ac}}{2a}$$

$$(1)\quad i = \frac{-.997260 + \sqrt{(.997260)^2 - 4[(.24863)(-.083835)]}}{2(.248630)}$$

$$(2)\quad i = \frac{-.997260 + \sqrt{.994528 + .083376}}{.497260}$$

(3)i=(−.997260 + 1.038222)/.497260
(4)i=.040962/.497260
(5)i=.082375 or
(6)i=8.24%

[58 FR 414, Jan. 5, 1993, as amended at 62 FR 854, 855, 864, 866, Jan. 6, 1997; 62 FR 43094, Aug. 12, 1997; 63 FR 35784, June 30, 1998; 64 FR 3634, Jan. 25, 1999]

APPENDIX C TO PART 356—INVESTMENT CONSIDERATIONS

I. INFLATION-INDEXED SECURITIES

A. Principal and Interest Variability

An investment in securities with principal or interest determined by reference to an inflation index involves factors not associated with an investment in a fixed-principal security. Such factors may include, without limitation, the possibility that the inflation index may be subject to significant changes, that changes in the index may or may not correlate to changes in interest rates generally or with changes in other indices, that the resulting interest may be greater or less than that payable on other securities of

similar maturities, and that, in the event of sustained deflation, the amount of the semi-annual interest payments, the inflation-adjusted principal of the security, and the value of stripped components, will decrease. However, if at maturity the inflation-adjusted principal is less than a security's par amount, an additional amount will be paid at maturity so that the additional amount plus the inflation-adjusted principal equals the par amount. Regardless of whether or not such an additional amount is paid, interest payments will always be based on the inflation-adjusted principal as of the interest payment date. If a security has been stripped, any such additional amount will be paid at maturity to holders of principal components only. (See §356.30.)

B. Trading in the Secondary Market

The Treasury securities market is the largest and most liquid securities market in the world. While Treasury expects that there will be an active secondary market for inflation-indexed securities, that market initially may not be as active or liquid as the secondary market for Treasury fixed-principal securities. In addition, as a new product, inflation-indexed securities may not be as widely traded or as well understood as Treasury fixed-principal securities. Lesser liquidity and fewer market participants may result in larger spreads between bid and asked prices for inflation-indexed securities than the bid-asked spreads for fixed-principal securities with the same time to maturity. Larger bid-asked spreads normally result in higher transaction costs and/or lower overall returns. The liquidity of an inflation-indexed security may be enhanced over time as Treasury issues additional amounts or more entities participate in the market.

C. Tax Considerations

Treasury inflation-indexed securities and the stripped interest and principal components of these securities are subject to specific tax rules provided by Treasury regulations issued under sections 1275(d) and 1286 of the Internal Revenue Code of 1986, as amended.

D. Indexing Issues

While the CPI measures changes in prices for goods and services, movements in the CPI that have occurred in the past are not necessarily indicative of changes that may occur in the future.

The calculation of the index ratio incorporates an approximate three-month lag, which may have an impact on the trading price of the securities, particularly during periods of significant, rapid changes in the index.

The CPI is reported by the Bureau of Labor Statistics, a bureau within the Department of Labor. The Bureau of Labor Statistics operates independently of the Treasury and, therefore, Treasury has no control over the determination, calculation, or publication of the index. For a discussion of how the CPI will be applied in various situations, see appendix B, section I, paragraph B. In addition, for a discussion of actions that Treasury would take in the event the CPI is: discontinued; in the judgment of the Secretary, fundamentally altered in a manner materially adverse to the interests of an investor in the security; or, in the judgment of the Secretary, altered by legislation or Executive Order in a manner materially adverse to the interests of an investor in the security, see appendix B, section I, paragraph B.4.

[62 FR 873, Jan. 6, 1997]

APPENDIX D TO PART 356—DESCRIPTION OF THE CONSUMER PRICE INDEX

The Consumer Price Index (''CPI'') for purposes of inflation-indexed securities is the non-seasonally adjusted *U.S. City Average All Items Consumer Price Index for All Urban Consumers,* published monthly by the Bureau of Labor Statistics of the Department of Labor. The CPI is a measure of the average change in consumer prices over time in a fixed market basket of goods and services, including food, clothing, shelter, fuels, transportation, charges for doctors' and dentists' services, and drugs.

In calculating the index, price changes for the various items are averaged together with weights that represent their importance in the spending of urban households in the United States. The contents of the market basket of goods and services and the weights assigned to the various items are updated periodically to take into account changes in consumer expenditure patterns.

The CPI is expressed in relative terms in relation to a time base reference period for which the level is set at 100. For example, if the CPI for the 1982–84 reference period is 100.0, an increase of 16.5 percent from that period would be shown as 116.5. The CPI for a particular month is released and published during the following month. From time to time, the CPI is rebased to a more recent base reference period. The base reference period for a particular inflation-indexed security will be provided on the offering announcement for that security.

Further details about the CPI may be obtained by contacting the Bureau of Labor Statistics.

[62 FR 873, Jan. 6, 1997]

EXHIBIT A TO PART 356—SAMPLE ANNOUNCEMENTS OF TREASURY OFFERINGS TO THE PUBLIC

I. TREASURY QUARTERLY FINANCING ANNOUNCEMENT

For release when authorized at press conference February 5, 20XX
Contact: Office of Financing, 202/XXX–XXXX

Treasury February Quarterly Financing

The Treasury will auction $16,000 million of 5-year notes, $12,000 million of 10-year notes, and $10,000 million of 30-year bonds to refund $26,996 million of publicly-held securities maturing February 15, 20XX, and to raise about $11,004 million of new cash.

In addition to the public holdings, Government accounts and Federal Reserve Banks, for their own accounts, hold $1,795 million of the maturing securities, which may be refunded by issuing additional amounts of the new securities.

The maturing securities held by the public include $1,654 million held by Federal Reserve Banks as agents for foreign and international monetary authorities. Amounts bid for these accounts by Federal Reserve Banks will be added to the offering.

All of the auctions being announced today will be conducted in the single-price auction format. All competitive and noncompetitive awards will be at the highest yield of accepted competitive tenders.

The 5-year and 10-year notes and the 30-year bond being offered today are eligible for the STRIPS program.

Tenders will be received at Federal Reserve Banks and Branches and at the Bureau of the Public Debt, Washington, D.C. This offering of Treasury securities is governed by the terms and conditions set forth in the Uniform Offering Circular for the Sale and Issue of Marketable Book-Entry Treasury Bills, Notes, and Bonds (31 CFR Part 356, as amended).

Details about the notes and bond are given in the attached offering highlights.

Attachment

HIGHLIGHTS OF TREASURY OFFERINGS TO THE PUBLIC

[February 20XX Quarterly Financing]

Offering Amount	$16,000 million	$12,000 million	$10,000 million.
Description of Offering:			
Term and type of security.	5-year notes	10-year notes	30 year bonds.
Series	U–20XX	B–20XX	Bonds of February 20XX.
CUSIP number	912827XX X	912827XX X	912810XX X.
Auction date	February 11, 20XX	February 12, 20XX	February 13, 20XX.
Issue date	February 18, 20XX	February 18, 20XX	February 18, 20XX.
Dated date	February 15, 20XX	February 15, 20XX	February 15, 20XX.
Maturity date	February 15, 20XX	February 15, 20XX	February 15, 20XX.
Interest rate	Determined based on the highest accepted competitive bid.	Determined based on the highest accepted competitive bid.	Determined based on the highest accepted competitive bid.
Yield	Determined at auction.	Determined at auction.	Determined at auction.
Interest payment dates.	August 15 and February 15.	August 15 and February 15.	August 15 and February 15.
Minimum bid amount and multiples.	$1,000	$1,000	$1,000.
Accrued interest payable by investor.	Determined at auction.	Determined at auction.	Determined at auction.
Premium or discount.	Determined at auction.	Determined at auction.	Determined at auction.
STRIPS Information:			
Minimum amount required.	Determined at auction.	Determined at auction.	Determined at auction.
Corpus CUSIP number.	912820XX X	912820XX X	912803XX X.

HIGHLIGHTS OF TREASURY OFFERINGS TO THE PUBLIC—Continued

[February 20XX Quarterly Financing]

Due dates and CUSIP numbers for additional TINTs.	Not applicable	Not applicable	February 15, 20XX—912833 XX X.

The following rules apply to all securities mentioned above:	
Submission of Bids:	
Noncompetitive bids	Accepted in full up to $5,000,000 at the highest accepted yield.
Competitive bids	(1) Must be expressed as a yield with three decimals in increments of .001%, e.g., 7.123%. (2) Net long position for each bidder must be reported when the sum of the total bid amount, at all yields, and the net long position is $2 billion or greater. (3) Net long position must be determined as of one half-hour prior to the closing time for receipt of competitive tenders.
Maximum Recognized Bid at a Single Yield.	35% of public offering.
Maximum Award	35% of public offering.
Receipt of Tenders:	
Noncompetitive tenders	Prior to 12:00 noon Eastern Standard time on auction day.
Competitive tenders	Prior to 1:00 p.m. Eastern Standard time on auction day.
Payment Terms	By charge to a funds account at a Federal Reserve Bank on issue date, or payment of full par amount with tender. Treasury Direct customers can use the Pay Direct feature which authorizes a charge to their account of record at their financial institution on issue date.

II. TREASURY WEEKLY BILL ANNOUNCEMENT

Embargoed Until 2:30 p.m. April 15, 20XX
Contact: Office of Financing, 202/XXX-XXXX

Treasury Offers 13-Week and 26-Week Bills

The Treasury will auction two series of Treasury bills totaling approximately $16,000 million, to refund $13,469 million of publicly held securities maturing November 19, 1998 and to raise about $2,531 million of new cash.

In addition to the public holdings, Federal Reserve Banks for their own accounts hold $7,442 million of the maturing bills, which may be refunded at the highest discount rate of accepted competitive tenders. Amounts issued to these accounts will be in addition to the offering amount.

The maturing bills held by the public include $1,991 million held by Federal Reserve Banks as agents for foreign and international monetary authorities, which may be refunded within the offering amount at the highest discount rate of accepted competitive tenders. Additional amounts may be issued for such accounts if the aggregate amount of new bids exceeds the aggregate amount of maturing bills.

The 13- and 26-week bill auctions will be conducted in the single-price auction format.

Tenders for the bills will be received at Federal Reserve Banks and Branches and at the Bureau of the Public Debt, Washington, D.C. This offering of Treasury securities is governed by the terms and conditions set forth in the Uniform Offering Circular for the Sale and Issue of Marketable Book-Entry Treasury Bills, Notes, and Bonds (31 CFR Part 356, as amended).

Details about each of the new securities are given in the attached offering highlights.

Attachment

HIGHLIGHTS OF TREASURY OFFERINGS OF BILLS TO BE ISSUED APRIL 24, 20XX

Offering Amount	$8,000 million	$8,000 million.
Description of Offering:		
Term and type of security	91-day bill	182-day bill.
CUSIP number	912795 XX X	912795 XX X.
Auction date	April 21, 20XX	April 21, 20XX.
Issue date	April 24, 20XX	April 24, 20XX.
Maturity date	July 24, 20XX	October 23, 20XX.
Original issue date	July 25, 20XX	April 24, 20XX.
Currently outstanding	$31,725 million	

HIGHLIGHTS OF TREASURY OFFERINGS OF BILLS TO BE ISSUED APRIL 24, 20XX—Continued

Minimum bid amount and multiples	$1,000	$1,000

The following rules apply to all securities mentioned above:	
Submission of Bids:	
Noncompetitive bids	Accepted in full up to $1,000,000 at the highest discount rate of accepted competitive bids.
Competitive bids	(1) Must be expressed as a discount rate with three decimals in increments of .005%, e.g., 7.100%, 7.105%. (2) Net long position for each bidder must be reported when the sum of the total bid amount, at all discount rates, and the net long position is $1 billion or greater. (3) Net long position must be determined as of one half-hour prior to the closing time for receipt of competitive tenders.
Maximum Recognized Bid at a Single Yield	35% of public offering.
Maximum Award:	35% of public offering.
Receipt of Tenders:	
Noncompetitive tenders	Prior to 12:00 noon Eastern Daylight Saving time on auction day
Competitive tenders	Prior to 1:00 p.m. Eastern Daylight Saving time on auction day
Payment Terms	By charge to a funds account at a Federal Reserve Bank on issue date, or payment of full par amount with tender. Treasury Direct customers can use the Pay Direct feature which authorizes a charge to their account of record at their financial institution on issue date.

III. TREASURY CASH MANAGEMENT BILL ANNOUNCEMENT

Embargoed until 2:30 p.m. February 25, 20XX
Contact: Office of Financing 202/XXX-XXXX

Treasury to Auction Cash Management Bills

The Treasury will auction approximately $23,000 million of 45-day Treasury cash management bills to be issued March 3, 20XX.

Competitive and noncompetitive tenders will be received at all Federal Reserve Banks and Branches. Tenders will *not* be accepted for bills to be maintained on the book-entry records of the Department of the Treasury (Treasury Direct). Tenders will *not* be received at the Bureau of the Public Debt, Washington, D.C.

Additional amounts of the bills may be issued to Federal Reserve Banks as agents for foreign and international monetary authorities at the highest discount rate of accepted competitive tenders.

The 45-day cash management bill will be conducted in the single-price auction format. All competitive and noncompetitive awards will be at the highest discount rate of accepted competitive tenders.

This offering of Treasury securities is governed by the terms and conditions set forth in the Uniform Offering Circular for the Sale and Issue of Marketable Book-Entry Treasury Bills, Notes, and Bonds (31 CFR Part 356, as amended).

NOTE: Competitive bids in cash management bill auctions must be expressed as a discount rate with *two* decimals, e.g., 7.10%.

Details about the new security are given in the attached offering highlights.

Attachment

HIGHLIGHTS OF TREASURY OFFERING OF 45-DAY CASH MANAGEMENT BILL

Offering Amount	$23,000 million.
Description of Offering:	
Term and type of security	45-day Cash Management Bill.
CUSIP number	912795 XX X.
Auction date	February 27, 20XX.
Issue date	March 3, 20XX.
Maturity date	April 17, 20XX.

HIGHLIGHTS OF TREASURY OFFERING OF 45-DAY CASH MANAGEMENT BILL—Continued

Original issue date	October 17, 20XX.
Currently outstanding	$24,724 million.
Minimum bid amount and multiples.	$1,000.
Submission of Bids:	
Noncompetitive bids	Accepted in full up to $1,000,000 at the highest accepted discount rate.
Competitive bids	(1) Must be expressed as a discount rate with two decimals in increments of .01%, e.g., 7.12%. (2) Net long position for each bidder must be reported when the sum of the total bid amount, at all discount rates, and the net long position is $1 billion or greater. (3) Net long position must be determined as of one half-hour prior to the closing time for receipt of competitive tenders.
Maximum Recognized Bid at a Single Yield.	35% of public offering.
Maximum Award	35% of public offering.
Receipt of Tenders:	
Noncompetitive tenders	Prior to 11:00 a.m. Eastern Standard time on auction day.
Competitive tenders	Prior to 11:30 a.m. Eastern Standard time on auction day.
Payment Terms	By charge to a funds account at a Federal Reserve Bank on issue date, or payment of full par amount with tender.

IV. TREASURY INFLATION-INDEXED NOTE ANNOUNCEMENT

Embargoed Until 2:30 P.M., October 2, 20XX
CONTACT: Office of Financing, 202/219–3350

Treasury to Auction $5,500 Million of 10-Year Inflation-Indexed Notes

The Treasury will auction $5,500 million of 10-year inflation-indexed notes to raise cash. In addition, there is $7,906 million of publicly-held securities maturing October 15, 20XX.

In addition to the public holdings, Federal Reserve Banks hold $327 million of the maturing securities for their own accounts, which may be exchanged for additional amounts of the new securities.

The maturing securities held by the public include $584 million held by Federal Reserve Banks as agents for foreign and international monetary authorities. Amounts bid for these accounts by Federal Reserve Banks will be added to the offering.

The auction will be conducted in the single-price auction format. All competitive and noncompetitive awards will be at the highest yield of accepted competitive tenders.

Tenders will be received at Federal Reserve Banks and Branches and at the Bureau of the Public Debt, Washington, D.C. This offering of Treasury securities is governed by the terms and conditions set forth in the Uniform Offering Circular (31 CFR part 356) for the sale and issue by the Treasury to the public of marketable Treasury bills, notes, and bonds.

Details about the new security are given in the attached offering highlights.

Highlights of Treasury Offering to the Public of 10-Year Inflation-Indexed Notes to be Issued October 15, 20XX

October 2, 20XX
Offering Amount: $5,500 million.
Description of Offering:
Term and type of security: 10-year inflation-indexed notes
Series—D–20XX
CUSIP number—912XXX XX X
Auction date—October 9, 20XX
Issue date—October 15, 20XX
Dated date—October 15, 20XX
Maturity date—October 15, 20XX
Interest Rate—Determined based on the highest accepted bid
Real yield—Determined at auction
Interest payment dates: April 15 and October 15.
Minimum bid amount—$1,000
Multiples—$1,000
Accrued interest payable by investor: None.
Premium or discount: Determined at auction.
STRIPS Information:
Minimum amount required—Determined at auction
Corpus CUSIP number—912XXX XX X
STRIPS Information:
Due dates and CUSIP numbers for additional TINTs: 912XXX.
April 15, 20XX—XX X
October 15, 20XX—XX X
April 15, 20XX—XX X
October 15, 20XX—XX X
April 15, 20XX—XX X
October 15, 20XX—XX X
April 15, 20XX—XX X
October 15, 20XX—XX X

April 15, 20XX—XX X
October 15, 20XX—XX X
April 15, 20XX—XX X
October 15, 20XX—XX X
April 15, 20XX—XX X
October 15, 20XX—XX X
April 15, 20XX—XX X
October 15, 20XX—XX X
April 15, 20XX—XX X
October 15, 20XX—XX X
April 15, 20XX—XX X
October 15, 20XX—XX X

Submission of Bids:

Noncompetitive bids:—Will be accepted in full up to $5,000,000 at the highest accepted yield.

Competitive bids:

(1) Must be expressed as a real yield with three decimals, e.g., 3.120%.

(2) Net long position for each bidder must be reported when the sum of the total bid amount, at all yields, and the net long position is $_____ billion or greater.

(3) Net long position must be determined as of one half-hour prior to the closing time for receipt of competitive tenders.

Maximum Recognized Bid at a Single Yield—35% of public offering.

Maximum Award—35% of public offering.

Receipt of Tenders:

Noncompetitive tenders: Prior to 12:00 noon Eastern Daylight Saving time on auction day.

Competitive tenders: Prior to 1:00 p.m. Eastern Daylight Saving time on auction day.

Payment Terms: Full payment with tender or by charge to a funds account at a Federal Reserve Bank on issue date.

Indexing Information:

CPI Base Reference Period:—19XX–XX
Ref CPI 10/15/20XX:—XXX.XXXXX

[58 FR 414, Jan. 5, 1993, as amended at 62 FR 873, Jan. 6, 1997; 62 FR 43094, Aug. 12, 1997; 64 FR 3634, Jan. 25, 1999]

EXHIBIT B TO PART 356—SAMPLE AUTOCHARGE AGREEMENT TO DELIVER AND CHARGE FOR SECURITIES AWARDED IN DEPARTMENT OF THE TREASURY AUCTIONS (SUBMITTER AND DEPOSITORY INSTITUTION)

Federal Reserve Bank of _____
Attention: (Name of Fiscal Officer)
(Address)
(Address)

To Whom It May Concern:

I. The depository institution (''DI'') and the submitting entity (''Submitter''), as identified below, agree that

(a) The Submitter is authorized to submit tenders to the Federal Reserve Bank of _____ (''Bank'');

(b) The Bank is authorized to deliver, as provided herein, Treasury securities awarded to the Submitter through the auction process;

(c) The Bank, or other Federal Reserve Bank identified in Section II below, is authorized to charge the DI's funds account for payment of awarded securities that are delivered by the Bank hereunder. Such charge is to be made at the same time the securities are delivered;

(d) The Submitter [ ] is, [ ] is not authorized to submit TREASURY DIRECT tenders. Where such tenders are authorized, the Bank is instructed to deliver awarded securities to the TREASURY DIRECT Book-Entry System and charge the DI's funds account for the securities delivered; and

(e) The Bank [ ] is, [ ] is not authorized to deliver the awarded securities to the DI's securities account at a Federal Reserve Bank other than the Bank.

The above authorizations apply to:

[ ] bills
[ ] notes
[ ] bonds

II. For securities to be delivered to a Federal Reserve Bank other than the Bank receiving the tender, the Submitter must complete the following:

Awarded securities are to be delivered hereunder by the Bank to the DI's securities account at the Federal Reserve Bank of _____.

III. The following wire instructions are to be used by the Bank to deliver securities to the DI:

Wire Instructions: _____.

IV. General Provisions.

This agreement is effective on the date it is received by the Bank, although the Bank normally will not act under the agreement until it has acknowledged receipt of such.

The Submitter hereunder is the entity submitting bids to a Bank for its own account or for the account of others. The Submitter is responsible to the Treasury for full payment of all securities awarded, including any securities awarded under customer bids submitted by the Submitter.

Any Federal Reserve Bank identified herein is authorized to act on information in any tender in the name of the Submitter that reasonably appears to be valid and genuine. The DI, by executing this agreement, guarantees the authority and signature of the person signing this agreement on behalf of the Submitter.

This agreement will remain in effect until written notice is received by the Bank from either the DI or the Submitter that the agreement has been terminated, provided that if securities are scheduled to be delivered hereunder, such notice must be received in accordance with the termination procedures hereafter described.

As to termination action by the DI, notice of termination will not be effective unless received in writing by a Fiscal/Securities Department officer by the later of (i) 5 p.m. (the Bank's time) on the business day prior to the issue date of the securities scheduled to be delivered hereunder or (ii) if the submitter has authorized the Bank to advise the DI of securities to be delivered, two hours after such advice is sent by the Bank. Such termination action by the DI shall not affect the Submitter's responsibility to make full payment for the securities awarded. A DI may, at any time, waive in writing its right to terminate hereunder.

As to termination action by the Submitter after an auction but prior to delivery of awarded securities, the written notice of termination will not be effective, and this agreement shall remain in full force and effect, unless the Submitter has provided to the Bank, and the latter has acknowledged, a new autocharge agreement executed by a DI having a funds account at a Federal Reserve Bank.

Written notices to be sent hereunder in connection with the termination of this autocharge agreement shall be sent by either the Submitter or the DI to the Bank authorized to receive tenders hereunder.

In the event that this autocharge agreement is terminated, it is the sole responsibility of the party terminating the agreement to notify the other party hereto.

AGREED TO BY _____
(Full DI Name and ABA #)
Signature: _____
Name: _____
Title: _____
Date: _____

AGREED TO BY _____
(Full name of Submitter)
Signature: _____
Name: _____
Title: _____
Date: _____

ACKNOWLEDGED BY: Federal Reserve Bank of _____
(''Bank''):
Signature: _____
Name: _____
Title: _____
Date: _____

DI'S SIGNATURE AND WIRE INSTRUCTIONS VERIFIED BY:

(For use only by Federal Reserve Bank named in Section II above)

Signature: _____
Name: _____
Title: _____
Date: _____
Federal Reserve Bank of _____

Instructions for Completing the Autocharge Agreement

1. DEPOSITORY INSTITUTION: This is the DI whose funds account at a Federal Reserve Bank will be debited, under this autocharge agreement, for the price of Treasury securities awarded at auction to the Submitter. Also, this DI must have a book-entry securities account at the Federal Reserve Bank to which securities will be delivered against payment on settlement day pursuant to the autocharge agreement and the Submitter's tender submission.

2. SUBMITTER: The Submitter must identify the full name of the entity that is submitting bids under this autocharge agreement. The name shown on the autocharge agreement should be the same as that appearing on related tender forms.

3. BANK: This is the Federal Reserve Bank to which the Submitter will be submitting tenders in Treasury auctions.

4. SIGNATURE FOR DI: This is the signature of an officer of the DI having authority to enter into or terminate this autocharge agreement, and whose signature is on file at the Federal Reserve Bank where the DI has a funds account.

5. SIGNATURE FOR SUBMITTER: This is the signature of an officer of the Submitter having authority to enter into or terminate the autocharge agreement.

6. SIGNATURE FOR BANK: This is the signature of an officer of the Bank having authority to acknowledge this autocharge agreement.

PART 357—REGULATIONS GOVERNING BOOK-ENTRY TREASURY BONDS, NOTES AND BILLS (DEPARTMENT OF THE TREASURY CIRCULAR, PUBLIC DEBT SERIES NO. 2–86)

Subpart A—General Information

Sec.

Subpart B—Treasury/Reserve Automated Debt Entry System (TRADES)