

## ATTACHMENT 2 - TOWERS PERRIN INCOME MODELLING RESULTS

A critical indicator of the performance of allocated pensions as retirement income streams is the average age at which they are likely to be exhausted. That age will depend on the amount invested in the allocated pension at retirement, the amount of retirement income taken, investment performance and the age at which the income stream is commenced.

While a high starting account balance may provide an economic basis for a decision to self-insure, adverse market events and/or extreme longevity may still result in premature exhaustion of the allocated pension.

While significant savings on the Aged Pension are only achieved where account balances are relatively high, the number and size of such accounts will grow as the Superannuation Guarantee and voluntary savings pillars mature. From the perspectives of the externalities of intergenerational equity and the sustainability of budget assistance to the retirement incomes system, maintaining private retirement income over retirees' lifetimes should become a much more significant objective of policy.

Lifetime annuities are an effective means for retirees to ensure that they do not become totally dependent on the Age Pension. If a retiree decides to take some or all of their private retirement savings in the form of a lifetime annuity, that part of their income will be protected from investment risk and they will have a commensurate amount of insurance against longevity risk.

The Towers Perrin modelling compares the performance of allocated pensions with lifetime annuities, either immediate or deferred, and various combinations of allocated pensions and these lifetime annuities.

Annuitisation of part or all of these higher balances has an impact on the size and timing of Age Pension payments, by preserving a proportion of the retiree's assets to support them through retirement, and if the annuity is large enough will reduce the total Age Pension cost.

All lifetime annuities by their nature have one area of comparative advantage over allocated pensions in terms of producing retirement income. Because the retiree's rights in lifetime annuities cease at death, all capital and earnings are notionally available to the retirement income pool for supplementing the income of surviving retirees, whereas with allocated pensions any residual assets on death will be allocated away from retirement incomes to retirees' estates.

In regard to both these issues it needs to be emphasized that the primary objective of retirement incomes policy is generating retirement incomes not estate planning.

PRIVATE AND CONFIDENTIAL

5 March 2009

Mr Tony Bofinger  
Chief Financial Officer and Appointed Actuary  
Challenger Life No. 2 Limited  
Level 15  
255 Pitt Street  
SYDNEY NSW 2000

Dear Tony

## RETIREMENT INCOME MODELLING RESULTS

Under the terms of an engagement letter dated 9 January 2009, Challenger Life No. 2 Limited (“Challenger” or “you”) has engaged Towers, Perrin, Forster & Crosby Inc., trading as Towers Perrin, (“Towers Perrin”) to provide advice and services in connection with Challenger’s proposed submission to the Henry Review (“the Submission”).

Specifically, we were asked to provide the following advice/services:

- Illustrations of retirement income benefits under a variety of starting fund balances, target income levels and annuitisation rules as specified by Challenger. For these illustrations we will use Towers Perrin’s existing stochastic modelling tool updated and enhanced as required; and
- A qualitative analysis of the potential impact of compulsory annuitisation on annuitant mortality rates and, hence, lifetime annuity pricing.

This letter considers the first of the bullet points above.

## RETIREMENT SCENARIOS

We presented a paper titled “Retirees’ Longevity Risk” (“the Forum paper”) to the Institute of Actuaries of Australia Financial Services Forum in May 2008. You subsequently requested that we extend the model we had developed for that paper to consider various alternative scenarios in which a retiree invests a portion of their retirement assets in a lifetime annuity.

You requested that we produce the following results from our retirement income model:

- The age at which a retiree first becomes eligible for the maximum age pension benefit;
- The age at which the account based pension runs out; and
- The total of age pension payments over a retiree's lifetime discounted using a risk free rate of return.

We were asked to provide results to Challenger under the following scenarios:

- An individual retiree with Comfortable (\$37,452) and Modest (\$19,399) retirement income aspirations, based on the June 2008 quarter Westpac-ASFA Retirement Standard publication;
- A range of starting account balances;
- An account based pension starting at ages 60 and 65;
- A lifetime annuity compulsorily purchased under the following alternative bases:
  - Purchased upon retirement and commencing immediately
  - Purchased at age 70 and commencing immediately
  - Purchased upon retirement with a 10 year deferral period, where the benefit payable on death in deferral is either nil, or is equal to a return of the original annuity premium;
- A percentage of retirement fund being annuitised at the point of compulsory purchase of 100%, 30% and, in the case of an annuity commencing immediately only, 50%.
- The following assumed changes to the means test used to assess age pension entitlement:
  - An increase in the taper applicable under the assets test from \$1.50 to \$3.00; or
  - An increase in the taper applicable under the income test to a taper rate which is conceptually consistent with the proposal developed for Challenger by your other adviser ("the revised income taper"). Details of the taper rates are provided in Appendix A.

With respect to the last point above, using a spreadsheet which was put together by your other adviser and provided to us by Challenger, we have solved for a taper rate such that the tax which would apply if superannuation income (annuity and account based pension income) was assessable for tax purposes as if it was ordinary employment income is instead adopted as a reduction against age pension eligibility under the income test (via a revised taper rate). This approach was agreed with David Cox.

## **ASSUMPTIONS AND METHODOLOGY**

The starting point for the assumptions and methodology used for the retirement income projections are set out in the Forum paper. The methodology, and to a lesser extent the assumptions, have then been updated/amended as appropriate.

### **Assumptions**

A complete listing of major assumptions is provided in Appendix B. The key assumptions are as follows:

- All scenarios have been based on a single account based pension portfolio which was invested 50% in growth assets (Australian equities) and 50% in defensive assets (divided equally between Australian fixed interest and cash);
- Total target income is indexed at CPI per annum;
- Age pension is indexed at CPI+1.5%, as a proxy for future wage inflation. (As the single age pension payment rate is currently at the minimum level of 25% of the Male Total Average Weekly Earnings (MTAWE) figure, the single age pension is in effect being indexed each year in line with a measure of wage inflation, rather than CPI);
- Age pension entitlement commences at age 65 and is assessed annually at each policy anniversary;
- The rate used for discounting the total age pension paid to a retiree is calculated using projected forward cash rate plus 0.5% per annum (as a proxy for a risk-free rate); and
- In respect of the lifetime annuity for which results are presented in this letter:
  - Present value of annuity payments is calculated using the yield on a long term inflation-linked bond reduced by 85 basis points gross margin to cover expenses, commissions, cost of capital and economic profit;
  - Indexation is applied in line with the prior year change in the Consumer Price Index (CPI), with a minimum of 0%, at each policy anniversary date; and

- A more conservative mortality basis which adopts a percentage (less than 100%, and increasing with age) of Australian population mortality and includes mortality improvement assumptions. This basis is intended to represent a proxy for the mortality characteristics for the retiree demographic that retires with a reasonable level of accumulated retirement savings. The basis we have adopted is lighter than current population mortality but heavier than current immediate lifetime annuitant mortality.

In all cases, investment returns for each asset class, inflation-linked bond yields, CPI rates and discount rates for calculating the total age pension have been taken from the corresponding simulation from the set of 2,000 simulations produced by Global CAP:Link, Towers Perrin's proprietary econometric model for generating scenarios of future economic conditions (GDP, inflation, interest rates) and associated asset class returns.

### **Methodology**

The starting point for the modelling performed under this assignment is the level of assets available for investment at retirement, divided into assets used to purchase a lifetime annuity (either immediate or deferred) and assets invested in an account based pension. From this starting point the account based pension fund and annual income amounts (including target income level, annual annuity payment and full age pension) were projected allowing for the effects of stochastic rates of investment returns on the account based pension assets and the effects of inflation on target income and age pension levels. This generated a probabilistic range of retirement income projections. The range of results can be used to gauge the effects of investment risk on retirement income, and to examine the impact of different allocations to an account based pension and a lifetime annuity.

The driver of the range of outcomes is principally the stochastic projections of account based pension fund cashflows. The fund will reduce by the assets used to purchase the annuity (if applicable) and the amount of income drawn each year from the account based pension, and will increase/decrease each year with net investment returns. Net investment returns are based on an approximate mid year fund balance, assumed investment fees and the stochastic portfolio investment return. The process for determining the amount of income drawn from the account based pension each year is as follows:

- (1) The amount of target annual income is determined, based on the prior year level increased with inflation at CPI;
- (2) The amount of annual lifetime annuity income (if any) is determined, based on the prior year level increased by the maximum of zero and inflation at CPI;

- (3) The minimum required level of account based pension drawdown is determined based on the beginning of year fund balance and SIS minimum drawdown requirements;
- (4) The amount of the full age pension is determined, based on the prior year level increased by the maximum of zero and inflation at CPI plus 1.5%;
- (5) The age pension entitlement is initially based upon assessable retirement assets and the sum of the annuity income determined in (2) above and the SIS minimum pension determined in (3) above;
- (6) The amount of account based pension required to be drawn is initially determined as the target annual income less the annual annuity income and the age pension entitlement determined in (5) above.

The age pension entitlement and account based pension entitlement are then recalculated based on an iterative process of steps (5) and (6).

When the account based pension fund is depleted, income comprises annuity and age pension income only. This means that once the fund is depleted the target income will only be met to the extent that the sum of annuity and age pension income is sufficient. Conversely, the target income will be exceeded in years/scenarios for which the sum of the annuity income, age pension entitlement and SIS minimum pension amount is greater than the target.

All annual amounts (total income, annuity, age pension payments and account based pension drawdown) have been deflated using CPI for the purposes of presenting these results graphically in our workshops, and in Appendix D of this letter.

## RESULTS

Results were presented to Challenger in a number of workshops throughout the course of the assignment. Due to the quantity of output produced, we have included within this letter only the subset of results which illustrates the key themes and findings that have emerged from our modelling. However, we would be happy to provide you with a complete set of results (or alternative subsets of the results) should you require.

The results in this letter supersede the work-in-progress results presented in the various workshops and via email to date.

The results set out in Appendix C illustrate the average total discounted age pension payable to a retiree under the following selected scenarios:

- Retirees aged 60 and 65;

- Starting account balances of \$500,000, \$300,000 and \$150,000;
- Modest and Comfortable target income levels;
- Immediate annuitisation of 0%, 30% and 100% of retirement assets;
- Deferred annuitisation of 0%, 30% and (for completeness only) 100% of retirement assets. The results shown assume that no benefit is payable on death during the deferral period; and
- Age pension entitlement determined under the current assets and income testing rules, and alternatively under the revised income taper described earlier.

#### **Fund Depletion and Maximum Age Pension Age**

As we have discussed with you, two of the three metrics analysed in our projections did not offer particularly significant insights in relation to the impact of compulsory annuitisation on retirement outcomes. These were the age at which a retiree becomes eligible for the maximum age pension and the age at which the account based pension fund is depleted.

However, the results for these metrics in the case where there is no annuitisation do provide an indication of how reliant a retiree might be on the age pension at different levels of retirement assets.

The results for these metrics are provided in the tables below. In respect of these results, we note the following:

- The projections are based on the current age pension means testing arrangements (i.e. they do not allow for the impact of the revised income taper);
- The average ages shown in the Table 1 is the average of the ages across only those scenarios in which the fund is depleted; and
- Table 2 reflects the age (averaged across all scenarios) at which a retiree first becomes eligible for the maximum age pension. The results do not reflect instances in which the retiree becomes re-eligible for the maximum age pension after having lost this eligibility over the projection period.

**TABLE 1.**

**Average Age That Account Based Pension Fund Is Depleted**

| Starting Account Balance | Target Income | Age 60 Retiree   |     | Age 65 Retiree   |     |
|--------------------------|---------------|------------------|-----|------------------|-----|
|                          |               | % of Simulations | Age | % of Simulations | Age |
| \$500,000                | Modest        | 0%               | n/a | 0%               | n/a |
|                          | Comfortable   | 100%             | 84  | 100%             | 89  |
| \$300,000                | Modest        | 0%               | n/a | 0%               | n/a |
|                          | Comfortable   | 100%             | 71  | 100%             | 80  |
| \$150,000                | Modest        | 1%               | 72  | 0%               | n/a |
|                          | Comfortable   | 100%             | 65  | 100%             | 71  |
| \$50,000                 | Modest        | 100%             | 63  | 19%              | 81  |
|                          | Comfortable   | 100%             | 62  | 100%             | 67  |

**TABLE 2.**

**Average Age That Retiree First Becomes Eligible For Maximum Age Pension**

| Starting Account Balance | Target Income | Age 60 Retiree | Age 65 Retiree |
|--------------------------|---------------|----------------|----------------|
| \$500,000                | Modest        | 102            | 104            |
|                          | Comfortable   | 80             | 84             |
| \$300,000                | Modest        | 75             | 86             |
|                          | Comfortable   | 71             | 79             |
| \$150,000                | Modest        | 65             | 65             |
|                          | Comfortable   | 65             | 71             |
| \$50,000                 | Modest        | 65             | 65             |
|                          | Comfortable   | 65             | 67             |



### **Impact of Compulsory Annuitisation on Average Total Discounted Age Pension**

The third retirement outcome metric you requested that we measure is the total age pension cost. For this metric, total age pension has been discounted at the risk free rate of return and averaged across all simulations, with totals calculated at ages 80, 90 and 100 (i.e. we estimated total discounted age pension received between retirement age and each measurement age).

The results for this metric, presented in Appendix C, suggest a number of interesting features. Specifically, we note the following (all other things being equal):

- When the starting balance of retirement assets is below the age pension means testing threshold, immediate annuitisation generally has little impact on the total discounted age pension. This is because the retiree is eligible for the full age pension irrespective of the annuitisation percentage assumed. The one exception is the \$150,000 asset case when an age 65 retiree adopts a comfortable income target, where the effects of the income test cause a difference in total age pension cost;
- Annuitisation smooths income levels in retirement. For retirees with high income targets, annuitisation preserves a portion of the retiree's retirement assets to support them throughout their retirement and may reduce the total age pension cost as well.
- Annuitisation quarantines a portion of retirement assets away from the impact of investment risk/ volatility. Where the assets exposed to investment risk are high for a prolonged period, annuitisation may have the effect of reducing investment upside (e.g. in the case of the retiree with \$500,000 of starting assets and a modest income target which results in a relatively low/minimum account based pension draw down).
- Total age pension payments may therefore increase as a consequence of annuitisation, for those with high retirement assets and a modest income target, because while the retiree forgoes the benefit of a portion of favourable investment returns, they are insulated from poor investment returns by the age pension underpin. This illustrates that the age pension underpin offers the retiree a form of put option provided by the taxpayer.
- The purchase of a 30% deferred lifetime annuity generally results in a larger reduction in total age pension costs than purchase of a 30% immediate annuity. This arises because the purchase of a deferred lifetime annuity causes more of a retiree's total retirement income to be drawn down at older ages, and there is generally a greater reliance upon the age pension at older ages (due to depletion of assets);

- Annuitisation implies a cost to the retiree's estate to the extent that there is a difference in death benefits between an account based pension and a lifetime annuity.
- As expected, the revised income taper reduces the total discounted age pension at all ages when income levels are high. The magnitude of the impact of the revised income taper on age pension cost increases with higher levels of annuitisation; and
- Although not shown in Appendix C, we would also observe that providing a return of premium benefit on death during the deferral period increases somewhat the cost of a deferred annuity, thereby decreasing the amount of deferred annuity purchased (for a given purchase price) and increasing the total discounted age pension costs compared to a deferred annuity without a return of premium death benefit.

In addition to the general trends outlined above, some specific findings with respect to particular scenarios were notable. Specifically, using the existing income taper we observe the following:

- (1) In both the \$500,000 and \$300,000 retirement asset cases where a retiree has a comfortable target income, immediate annuitisation of 100% of retirement assets results in a material saving in the total age pension cost at both retirement ages for those retirees who live beyond life expectancy.
- (2) For the same levels of retirement assets (i.e. \$300,000 and \$500,000), the purchase of a deferred annuity with 30% of their retirement assets produces a better outcome for the taxpayer in terms of a saving in the total age pension cost and a better outcome for the retiree in terms of the general profile of retirement income over their lifetime and the level of income at the end of the projection period (compared to the 0% annuitisation case). Charts illustrating the improved profile of income for the retiree are provided in Appendix D.
- (3) For a retiree with assets of \$150,000 and a modest income target, the purchase of a deferred annuity with 30% of their retirement assets does not impact the total age pension cost since the assets and income are below the level at which the age pension is reduced. However, we note that in these scenarios, the purchase of a deferred annuity means that the retiree is not solely reliant upon the age pension beyond the age at which their account based pension is depleted.
- (4) At all retirement asset and target income levels, the amount of age pension drawn by the retiree between ages 90 and 100 is greatest in the 0% annuitisation case. This suggests that annuitisation reduces longevity risk borne by the taxpayer under the current age pension arrangements. The difference between 0% and 30% annuitisation is even more marked when annuitisation is in the form of a deferred annuity.

As noted above, the impact of the revised income test taper is greater at higher annuitisation levels.

To illustrate some of the above points, Appendix D includes the following selected charts of the total annual income:

- Existing income taper
  - Age 60 retiree, account balance = \$500,000, Comfortable Income Target (0% annuitisation, 30% immediate annuitisation and 30% deferred annuitisation)
  - Age 60 retiree, account balance = \$300,000, Comfortable Income Target (0% annuitisation, 30% deferred annuitisation)
  
- Revised income taper
  - Age 60 retiree, account balance = \$500,000, Comfortable Income Target (0% annuitisation, 30% immediate annuitisation and 30% deferred annuitisation)
  - Age 60 retiree, account balance = \$300,000, Comfortable Income Target (0% annuitisation, 30% deferred annuitisation)
  - Age 65 retiree, account balance = \$500,000, Comfortable Income Target (0% annuitisation, 30% immediate annuitisation and 30% deferred annuitisation)

For completeness, we have included an additional subset of charts for an individual retiring at age 65 in Appendix E. We would be happy to provide charts for additional scenarios upon request.

## **RELIANCES AND LIMITATIONS**

This letter and its contents have been prepared for the internal use of Challenger. Disclosure of this letter in whole or in part to any other party is subject to the terms of our engagement letter dated 9 January 2009.

In performing our scope of work and in preparing this letter, Towers Perrin has relied, without independent verification, upon the accuracy and completeness of information provided by Challenger. In particular, we have relied upon the following:

- Information regarding your other adviser's proposal in relation to the income test taper; and
  
- Detail provided in relation to the treatment of assets and income under the means testing rules for determining age pension entitlement.

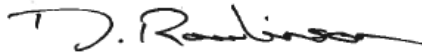
Towers Perrin has performed the work assigned and has prepared this letter in conformity with its intended utilisation by a person technically competent in the areas addressed and for the stated purposes only. Judgements as to the contents of the letter should be made only after studying the letter in its entirety as the conclusions reached by review of a section or sections on an isolated basis may be incorrect.

Members of Towers Perrin staff are available to explain and/or amplify any matter presented herein, and it is assumed that the user of this letter will seek such explanation and/or amplification as to any matter in question.

\* \* \* \* \*

Please let either of us know if you would like to discuss any aspects of this letter. We look forward to assisting you further as required.

Yours sincerely,



Duncan Rawlinson



Michelle Cater

## REVISED INCOME TAPER RATES

TABLE A.1

## Revised Taper Rates for Age Pension Income Test

| Assessable Annual Income Band | % Taper Rate |
|-------------------------------|--------------|
| Up to \$21,999                | 40.0         |
| \$22,000 - \$22,999           | 40.6         |
| \$23,000 - \$23,999           | 41.5         |
| \$24,000 - \$24,999           | 42.3         |
| \$25,000 - \$25,999           | 43.1         |
| \$26,000 - \$26,999           | 43.8         |
| \$27,000 - \$27,999           | 44.4         |
| \$28,000 - \$28,999           | 45.0         |
| \$29,000 - \$29,999           | 45.6         |
| \$30,000 - \$30,999           | 46.1         |
| \$31,000 - \$31,999           | 46.9         |
| \$32,000 - \$32,999           | 47.7         |
| \$33,000 - \$33,999           | 48.3         |
| \$34,000 or over              | 48.8         |

## ASSUMPTIONS

The results presented in this letter are based on projections that require various assumptions for mortality experience, product parameters and economic parameters/assumptions. This appendix provides a summary of key assumptions.

### Mortality

The base tables for mortality were the Australian Life Tables 2000-02.

The base table was adjusted to reflect lighter expected mortality rates for retirees. We elected to adopt 75% of table at age 60 grading to 95% of table at age 100+. We also included an allowance for mortality improvements using a “cohort” basis of improvement.

### Product Design

The major account based pension product design assumptions are:

- Pension income drawn 100% from Cash, annually in advance;
- Portfolio rebalanced once per year on pension anniversary date;
- Indexation
  - Assumed to occur annually in arrears on pension and annuity anniversary date;
  - Base assumption is indexation equal to 100% of the prior year’s increase in CPI.
    - For the purposes of indexing target income, no minimum has been applied.
    - For the purposes of indexing lifetime annuity amounts, a minimum of 0% has been applied to the indexation.
    - For the purposes of indexing the full age pension 1.5% has been added and a minimum of 0% has been applied.
- Fees deducted annually from year end account balance as follows;
 

|                             |                                    |
|-----------------------------|------------------------------------|
| — Cash                      | 1.50% of account balance per annum |
| — Australian Fixed Interest | 1.50% of account balance per annum |
| — Australian Equities       | 2.00% of account balance per annum |

For a 25/25/50 cash/fixed interest/equity asset mix, this implies an account based pension fee of 1.75% per annum.

The lifetime annuity is assumed to be priced at an implicit 0.85% per annum gross fee/margin.

## Economic Parameters/Assumptions

Stochastic scenarios were produced using Towers Perrin's Capital Market Scenario Generator, Global CAP:Link.

CAP:Link was used to produce stochastic simulations of price inflation and relevant asset class returns (cash, Australian fixed interest and Australian equities), using CAP:Link's standard assumption set and correlation factors.

The simulations were based on an initial 10-year Australian government bond yield of 3.99% as at 1 January 2009. The asset class simulations implied the following long-run average risk premiums relative to the simulated government bond yield:

- equity risk premium: a little over +4% per annum;
- fixed interest risk premium: a little under +1% per annum;
- cash risk "premium": approximately -1% per annum.

Our projections also required the following initial information regarding the Age Pension:

- Single Payment Rate (fortnightly) \$562
- Single Payment Means-Test Pension Base \$171,750
- Single Payment Income-Test Allowance (fortnightly) \$138
- Deeming rates:
  - Deemed assets less than \$30,000 3%
  - Deemed assets in excess of \$30,000 4%

**SUMMARY OF RESULTS**



**Average Total Discounted Age Pension**

Age **60**  
 Annuity **immediate**

Taper **40% income taper**

**Average Total Discounted Age Pension @80**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @80 |           |           |
|--------------------------|---------------|--|-----------|-----------|
|                          |               | 0%                                       | 30%       | 100%      |
| \$500,000                | Modest        | \$136,312                                | \$165,421 | \$203,079 |
|                          | Comfortable   | \$196,673                                | \$209,794 | \$203,079 |
| \$300,000                | Modest        | \$223,048                                | \$232,068 | \$232,778 |
|                          | Comfortable   | \$217,585                                | \$228,526 | \$232,778 |
| \$150,000                | Modest        | \$238,740                                | \$238,740 | \$238,724 |
|                          | Comfortable   | \$238,632                                | \$238,740 | \$238,724 |

**Average Total Discounted Age Pension @90**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @90 |           |           |
|--------------------------|---------------|--|-----------|-----------|
|                          |               | 0%                                       | 30%       | 100%      |
| \$500,000                | Modest        | \$244,841                                | \$268,511 | \$294,299 |
|                          | Comfortable   | \$325,461                                | \$335,130 | \$294,299 |
| \$300,000                | Modest        | \$354,612                                | \$360,224 | \$349,860 |
|                          | Comfortable   | \$363,546                                | \$372,765 | \$349,860 |
| \$150,000                | Modest        | \$384,478                                | \$384,540 | \$375,204 |
|                          | Comfortable   | \$384,593                                | \$384,702 | \$375,204 |

**Average Total Discounted Age Pension @100**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @100 |           |           |
|--------------------------|---------------|---|-----------|-----------|
|                          |               | 0%  | 30%       | 100%      |
| \$500,000                | Modest        | \$368,941                                 | \$384,143 | \$390,702 |
|                          | Comfortable   | \$468,546                                 | \$470,147 | \$390,702 |
| \$300,000                | Modest        | \$491,697                                 | \$492,599 | \$468,385 |
|                          | Comfortable   | \$506,832                                 | \$514,516 | \$468,385 |
| \$150,000                | Modest        | \$527,678                                 | \$527,769 | \$510,319 |
|                          | Comfortable   | \$527,880                                 | \$527,988 | \$510,319 |

**Average Total Discounted Age Pension**

Age 65  
 Annuity immediate

Taper 40% income taper

**Average Total Discounted Age Pension @80**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @80 |           |           |
|--------------------------|---------------|--|-----------|-----------|
|                          |               | 0%                                       | 30%       | 100%      |
| \$500,000                | Modest        | \$105,870                                | \$130,254 | \$168,758 |
|                          | Comfortable   | \$141,488                                | \$155,839 | \$168,758 |
| \$300,000                | Modest        | \$196,427                                | \$208,399 | \$220,348 |
|                          | Comfortable   | \$199,958                                | \$206,172 | \$220,348 |
| \$150,000                | Modest        | \$238,207                                | \$238,384 | \$238,402 |
|                          | Comfortable   | \$201,480                                | \$210,737 | \$238,402 |

**Average Total Discounted Age Pension @90**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @90 |           |           |
|--------------------------|---------------|--|-----------|-----------|
|                          |               | 0%                                       | 30%       | 100%      |
| \$500,000                | Modest        | \$208,865                                | \$228,837 | \$251,545 |
|                          | Comfortable   | \$246,641                                | \$253,189 | \$251,545 |
| \$300,000                | Modest        | \$322,751                                | \$331,150 | \$333,338 |
|                          | Comfortable   | \$346,454                                | \$350,164 | \$333,338 |
| \$150,000                | Modest        | \$380,120                                | \$378,429 | \$373,753 |
|                          | Comfortable   | \$349,044                                | \$358,302 | \$373,753 |

**Average Total Discounted Age Pension @100**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @100 |           |           |
|--------------------------|---------------|---|-----------|-----------|
|                          |               | 0%  | 30%       | 100%      |
| \$500,000                | Modest        | \$329,532                                 | \$338,527 | \$335,651 |
|                          | Comfortable   | \$389,500                                 | \$383,597 | \$335,651 |
| \$300,000                | Modest        | \$456,477                                 | \$458,436 | \$445,275 |
|                          | Comfortable   | \$491,007                                 | \$491,324 | \$445,275 |
| \$150,000                | Modest        | \$522,488                                 | \$518,884 | \$506,564 |
|                          | Comfortable   | \$493,596                                 | \$502,854 | \$506,564 |

**Average Total Discounted Age Pension**

Age 60  
Annuity deferred

Taper 40% income taper

**Average Total Discounted Age Pension @80**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @80 |           |           |
|--------------------------|---------------|--|-----------|-----------|
|                          |               | 0%                                       | 30%       | 100%      |
| \$500,000                | Modest        | \$136,312                                | \$157,333 | \$125,341 |
|                          | Comfortable   | \$196,673                                | \$206,664 | \$125,341 |
| \$300,000                | Modest        | \$223,048                                | \$230,319 | \$189,999 |
|                          | Comfortable   | \$217,585                                | \$229,308 | \$189,999 |
| \$150,000                | Modest        | \$238,740                                | \$238,740 | \$225,858 |
|                          | Comfortable   | \$238,632                                | \$238,740 | \$225,858 |

**Average Total Discounted Age Pension @90**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @90 |           |           |
|--------------------------|---------------|--|-----------|-----------|
|                          |               | 0%                                       | 30%       | 100%      |
| \$500,000                | Modest        | \$244,841                                | \$249,976 | \$170,951 |
|                          | Comfortable   | \$325,461                                | \$321,903 | \$170,951 |
| \$300,000                | Modest        | \$354,612                                | \$352,583 | \$279,712 |
|                          | Comfortable   | \$363,546                                | \$365,334 | \$279,712 |
| \$150,000                | Modest        | \$384,478                                | \$383,185 | \$348,653 |
|                          | Comfortable   | \$384,593                                | \$383,617 | \$348,653 |

**Average Total Discounted Age Pension @100**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @100 |           |           |
|--------------------------|---------------|---|-----------|-----------|
|                          |               | 0%  | 30%       | 100%      |
| \$500,000                | Modest        | \$368,941                                 | \$351,345 | \$213,463 |
|                          | Comfortable   | \$468,546                                 | \$440,497 | \$213,463 |
| \$300,000                | Modest        | \$491,697                                 | \$476,617 | \$365,898 |
|                          | Comfortable   | \$506,832                                 | \$497,384 | \$365,898 |
| \$150,000                | Modest        | \$527,678                                 | \$524,706 | \$467,599 |
|                          | Comfortable   | \$527,880                                 | \$525,495 | \$467,599 |

**Average Total Discounted Age Pension**

Age 65  
Annuity deferred

Taper 40% income taper

**Average Total Discounted Age Pension @80**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @80 |           |           |
|--------------------------|---------------|--|-----------|-----------|
|                          |               | 0%                                       | 30%       | 100%      |
| \$500,000                | Modest        | \$105,870                                | \$108,254 | \$85,141  |
|                          | Comfortable   | \$141,488                                | \$157,675 | \$85,141  |
| \$300,000                | Modest        | \$196,427                                | \$196,717 | \$175,181 |
|                          | Comfortable   | \$199,958                                | \$185,506 | \$175,181 |
| \$150,000                | Modest        | \$238,207                                | \$238,061 | \$222,587 |
|                          | Comfortable   | \$201,480                                | \$206,639 | \$222,587 |

**Average Total Discounted Age Pension @90**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @90 |           |           |
|--------------------------|---------------|--|-----------|-----------|
|                          |               | 0%                                       | 30%       | 100%      |
| \$500,000                | Modest        | \$208,865                                | \$185,736 | \$107,724 |
|                          | Comfortable   | \$246,641                                | \$255,292 | \$107,724 |
| \$300,000                | Modest        | \$322,751                                | \$306,766 | \$244,166 |
|                          | Comfortable   | \$346,454                                | \$317,720 | \$244,166 |
| \$150,000                | Modest        | \$380,120                                | \$372,136 | \$336,251 |
|                          | Comfortable   | \$349,044                                | \$350,770 | \$336,251 |

**Average Total Discounted Age Pension @100**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @100 |           |           |
|--------------------------|---------------|---|-----------|-----------|
|                          |               | 0%  | 30%       | 100%      |
| \$500,000                | Modest        | \$329,532                                 | \$268,902 | \$108,929 |
|                          | Comfortable   | \$389,500                                 | \$355,991 | \$108,929 |
| \$300,000                | Modest        | \$456,477                                 | \$418,114 | \$302,975 |
|                          | Comfortable   | \$491,007                                 | \$442,942 | \$302,975 |
| \$150,000                | Modest        | \$522,488                                 | \$504,699 | \$442,497 |
|                          | Comfortable   | \$493,596                                 | \$490,223 | \$442,497 |

**Average Total Discounted Age Pension**

Age 60  
 Annuity immediate  
 Taper new income taper

**Average Total Discounted Age Pension @80**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @80 |           |           |
|--------------------------|---------------|--|-----------|-----------|
|                          |               | 0%                                       | 30%       | 100%      |
| \$500,000                | Modest        | \$136,312                                | \$165,399 | \$202,957 |
|                          | Comfortable   | \$196,607                                | \$209,742 | \$202,957 |
| \$300,000                | Modest        | \$223,048                                | \$232,067 | \$232,777 |
|                          | Comfortable   | \$217,358                                | \$228,493 | \$232,777 |
| \$150,000                | Modest        | \$238,740                                | \$238,740 | \$238,724 |
|                          | Comfortable   | \$238,622                                | \$238,740 | \$238,724 |

**Average Total Discounted Age Pension @90**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @90 |           |           |
|--------------------------|---------------|--|-----------|-----------|
|                          |               | 0%                                       | 30%       | 100%      |
| \$500,000                | Modest        | \$238,487                                | \$260,014 | \$282,232 |
|                          | Comfortable   | \$321,214                                | \$332,251 | \$282,232 |
| \$300,000                | Modest        | \$354,012                                | \$359,614 | \$346,400 |
|                          | Comfortable   | \$363,320                                | \$372,731 | \$346,400 |
| \$150,000                | Modest        | \$384,478                                | \$384,540 | \$375,201 |
|                          | Comfortable   | \$384,584                                | \$384,702 | \$375,201 |

**Average Total Discounted Age Pension @100**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @100 |           |           |
|--------------------------|---------------|---|-----------|-----------|
|                          |               | 0%  | 30%       | 100%      |
| \$500,000                | Modest        | \$359,587                                 | \$370,103 | \$368,364 |
|                          | Comfortable   | \$464,385                                 | \$467,220 | \$368,364 |
| \$300,000                | Modest        | \$490,713                                 | \$491,407 | \$460,096 |
|                          | Comfortable   | \$506,606                                 | \$514,482 | \$460,096 |
| \$150,000                | Modest        | \$527,678                                 | \$527,769 | \$510,208 |
|                          | Comfortable   | \$527,870                                 | \$527,988 | \$510,208 |

**Average Total Discounted Age Pension**

Age 65  
 Annuity immediate  
 Taper new income taper

**Average Total Discounted Age Pension @80**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @80 |           |           |
|--------------------------|---------------|--|-----------|-----------|
|                          |               | 0%                                       | 30%       | 100%      |
| \$500,000                | Modest        | \$105,870                                | \$130,254 | \$168,743 |
|                          | Comfortable   | \$141,488                                | \$155,839 | \$168,743 |
| \$300,000                | Modest        | \$196,427                                | \$208,399 | \$220,348 |
|                          | Comfortable   | \$199,848                                | \$206,137 | \$220,348 |
| \$150,000                | Modest        | \$238,207                                | \$238,384 | \$238,402 |
|                          | Comfortable   | \$199,631                                | \$209,787 | \$238,402 |

**Average Total Discounted Age Pension @90**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @90 |           |           |
|--------------------------|---------------|--|-----------|-----------|
|                          |               | 0%                                       | 30%       | 100%      |
| \$500,000                | Modest        | \$202,016                                | \$219,337 | \$237,691 |
|                          | Comfortable   | \$235,662                                | \$241,543 | \$237,691 |
| \$300,000                | Modest        | \$321,661                                | \$329,736 | \$328,831 |
|                          | Comfortable   | \$346,180                                | \$350,113 | \$328,831 |
| \$150,000                | Modest        | \$380,105                                | \$378,423 | \$373,750 |
|                          | Comfortable   | \$347,195                                | \$357,352 | \$373,750 |

**Average Total Discounted Age Pension @100**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @100 |           |           |
|--------------------------|---------------|---|-----------|-----------|
|                          |               | 0%  | 30%       | 100%      |
| \$500,000                | Modest        | \$319,119                                 | \$321,977 | \$308,552 |
|                          | Comfortable   | \$379,162                                 | \$373,007 | \$308,552 |
| \$300,000                | Modest        | \$454,701                                 | \$455,750 | \$434,241 |
|                          | Comfortable   | \$490,733                                 | \$491,273 | \$434,241 |
| \$150,000                | Modest        | \$522,441                                 | \$518,858 | \$506,409 |
|                          | Comfortable   | \$491,748                                 | \$501,904 | \$506,409 |

**Average Total Discounted Age Pension**

Age 60  
Annuity deferred

Taper new income taper

**Average Total Discounted Age Pension @80**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @80 |           |           |
|--------------------------|---------------|--|-----------|-----------|
|                          |               | 0%                                       | 30%       | 100%      |
| \$500,000                | Modest        | \$136,312                                | \$157,141 | \$114,561 |
|                          | Comfortable   | \$196,607                                | \$206,443 | \$114,561 |
| \$300,000                | Modest        | \$223,048                                | \$230,319 | \$188,403 |
|                          | Comfortable   | \$217,358                                | \$228,329 | \$188,403 |
| \$150,000                | Modest        | \$238,740                                | \$238,740 | \$225,856 |
|                          | Comfortable   | \$238,622                                | \$238,740 | \$225,856 |

**Average Total Discounted Age Pension @90**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @90 |           |           |
|--------------------------|---------------|--|-----------|-----------|
|                          |               | 0%                                       | 30%       | 100%      |
| \$500,000                | Modest        | \$238,487                                | \$238,605 | \$138,727 |
|                          | Comfortable   | \$321,214                                | \$316,771 | \$138,727 |
| \$300,000                | Modest        | \$354,012                                | \$350,387 | \$266,669 |
|                          | Comfortable   | \$363,320                                | \$364,314 | \$266,669 |
| \$150,000                | Modest        | \$384,478                                | \$383,185 | \$346,084 |
|                          | Comfortable   | \$384,584                                | \$383,617 | \$346,084 |

**Average Total Discounted Age Pension @100**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @100 |           |           |
|--------------------------|---------------|---|-----------|-----------|
|                          |               | 0%  | 30%       | 100%      |
| \$500,000                | Modest        | \$359,587                                 | \$330,835 | \$159,253 |
|                          | Comfortable   | \$464,385                                 | \$430,868 | \$159,253 |
| \$300,000                | Modest        | \$490,713                                 | \$471,540 | \$340,345 |
|                          | Comfortable   | \$506,606                                 | \$495,898 | \$340,345 |
| \$150,000                | Modest        | \$527,678                                 | \$524,706 | \$460,341 |
|                          | Comfortable   | \$527,870                                 | \$525,495 | \$460,341 |

**Average Total Discounted Age Pension**

Age 65  
 Annuity deferred

Taper new income taper

**Average Total Discounted Age Pension @80**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @80 |           |           |
|--------------------------|---------------|--|-----------|-----------|
|                          |               | 0%                                       | 30%       | 100%      |
| \$500,000                | Modest        | \$105,870                                | \$108,181 | \$74,872  |
|                          | Comfortable   | \$141,488                                | \$157,669 | \$74,872  |
| \$300,000                | Modest        | \$196,427                                | \$196,715 | \$172,896 |
|                          | Comfortable   | \$199,848                                | \$184,627 | \$172,896 |
| \$150,000                | Modest        | \$238,207                                | \$238,061 | \$222,582 |
|                          | Comfortable   | \$199,631                                | \$201,296 | \$222,582 |

**Average Total Discounted Age Pension @90**

| Starting Account Balance | Target Income | Average Total Discounted Age Pension @90 |           |           |
|--------------------------|---------------|--|-----------|-----------|
|                          |               | 0%                                       | 30%       | 100%      |
| \$500,000                | Modest        | \$202,016                                | \$171,327 | \$89,442  |
|                          | Comfortable   | \$235,662                                | \$241,342 | \$89,442  |
| \$300,000                | Modest        | \$321,661                                | \$301,005 | \$225,763 |
|                          | Comfortable   | \$346,180                                | \$316,579 | \$225,763 |
| \$150,000                | Modest        | \$380,105                                | \$372,064 | \$331,255 |
|                          | Comfortable   | \$347,195                                | \$345,427 | \$331,255 |

**Average Total Discounted Age Pension @100**

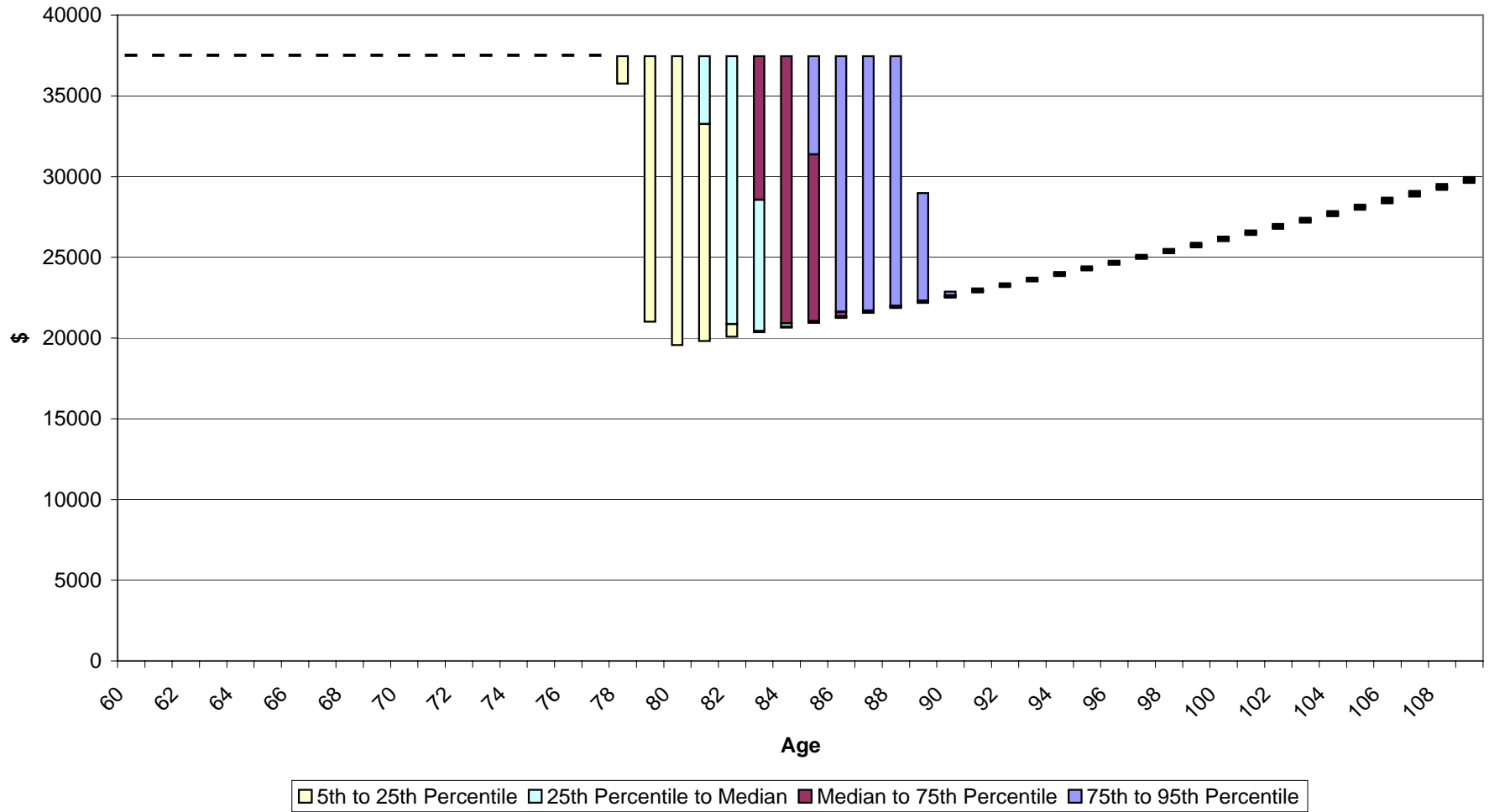
| Starting Account Balance | Target Income | Average Total Discounted Age Pension @100 |           |           |
|--------------------------|---------------|---|-----------|-----------|
|                          |               | 0%  | 30%       | 100%      |
| \$500,000                | Modest        | \$319,119                                 | \$241,127 | \$89,442  |
|                          | Comfortable   | \$379,162                                 | \$336,008 | \$89,442  |
| \$300,000                | Modest        | \$454,701                                 | \$405,620 | \$265,790 |
|                          | Comfortable   | \$490,733                                 | \$440,150 | \$265,790 |
| \$150,000                | Modest        | \$522,441                                 | \$504,428 | \$429,315 |
|                          | Comfortable   | \$491,748                                 | \$484,879 | \$429,315 |



SELECTED TOTAL INCOME CHARTS

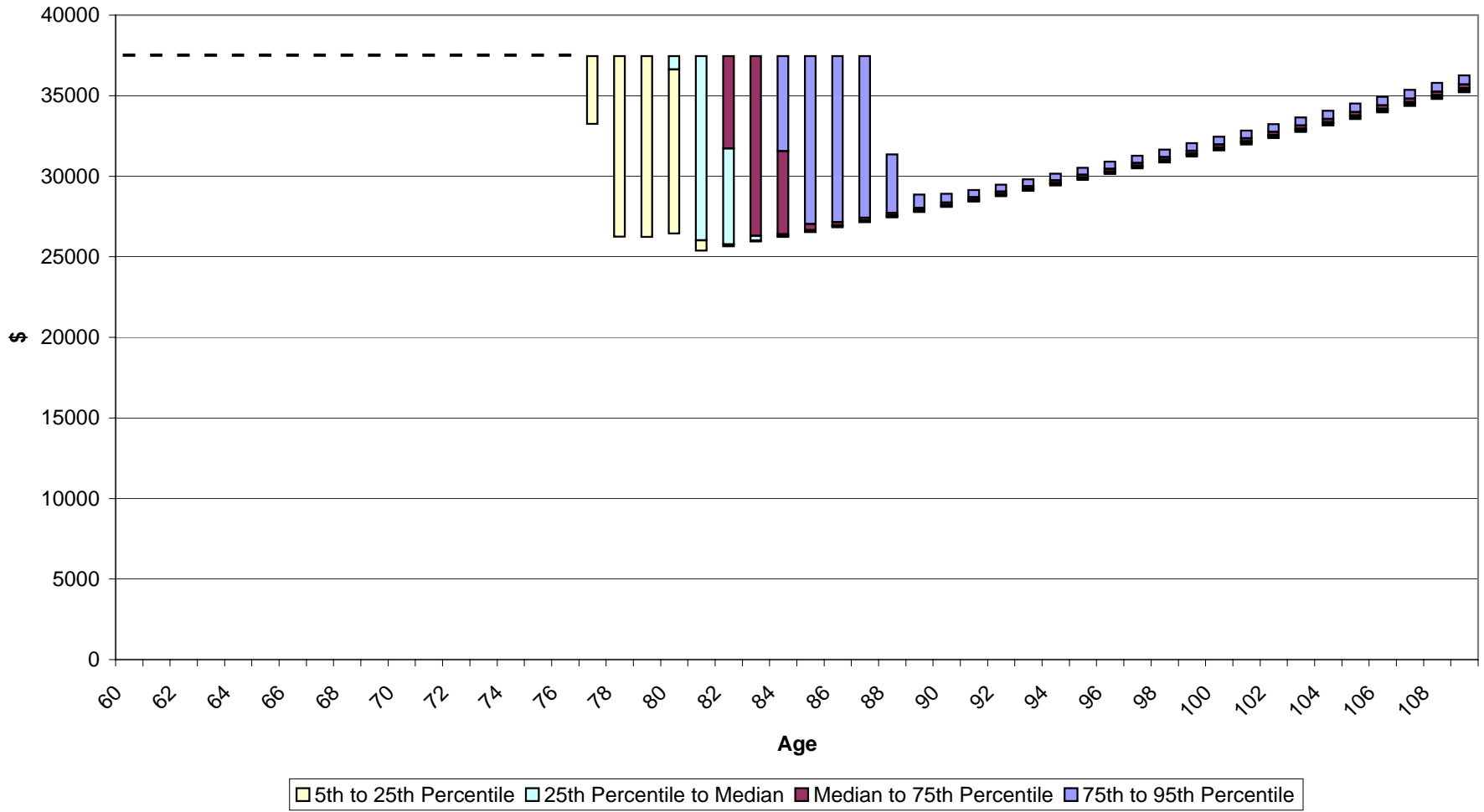
**Projected Total Income**

Age 60 retiree, Account Balance = \$500,000, Comfortable Income Target, 0% Immediate Annuitisation, 40% income taper, \$1.50 asset taper



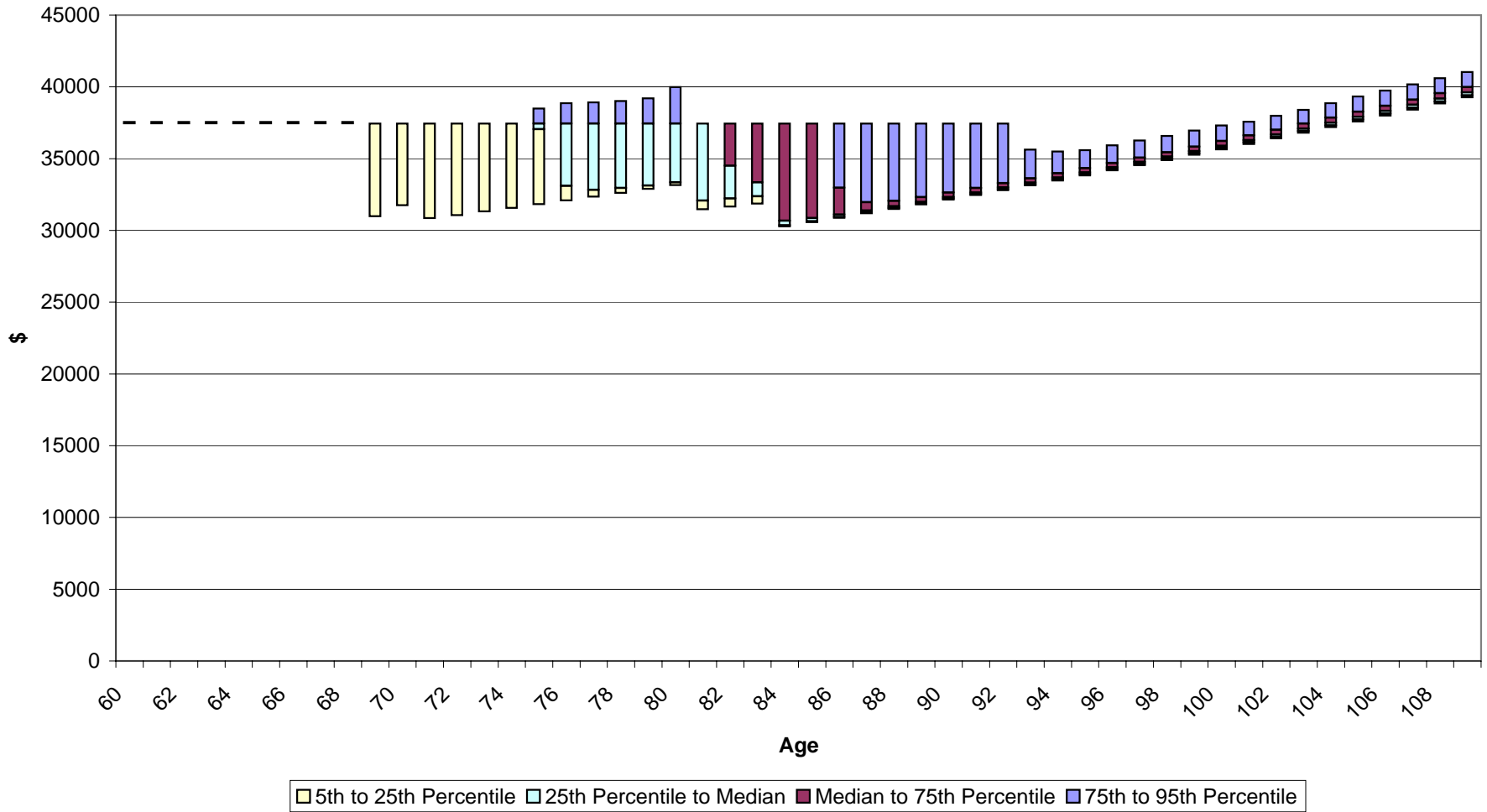
**Projected Total Income**

Age 60 retiree, Account Balance = \$500,000, Comfortable Income Target, 30% Immediate Annuitisation, 40% income taper , \$1.50 asset taper



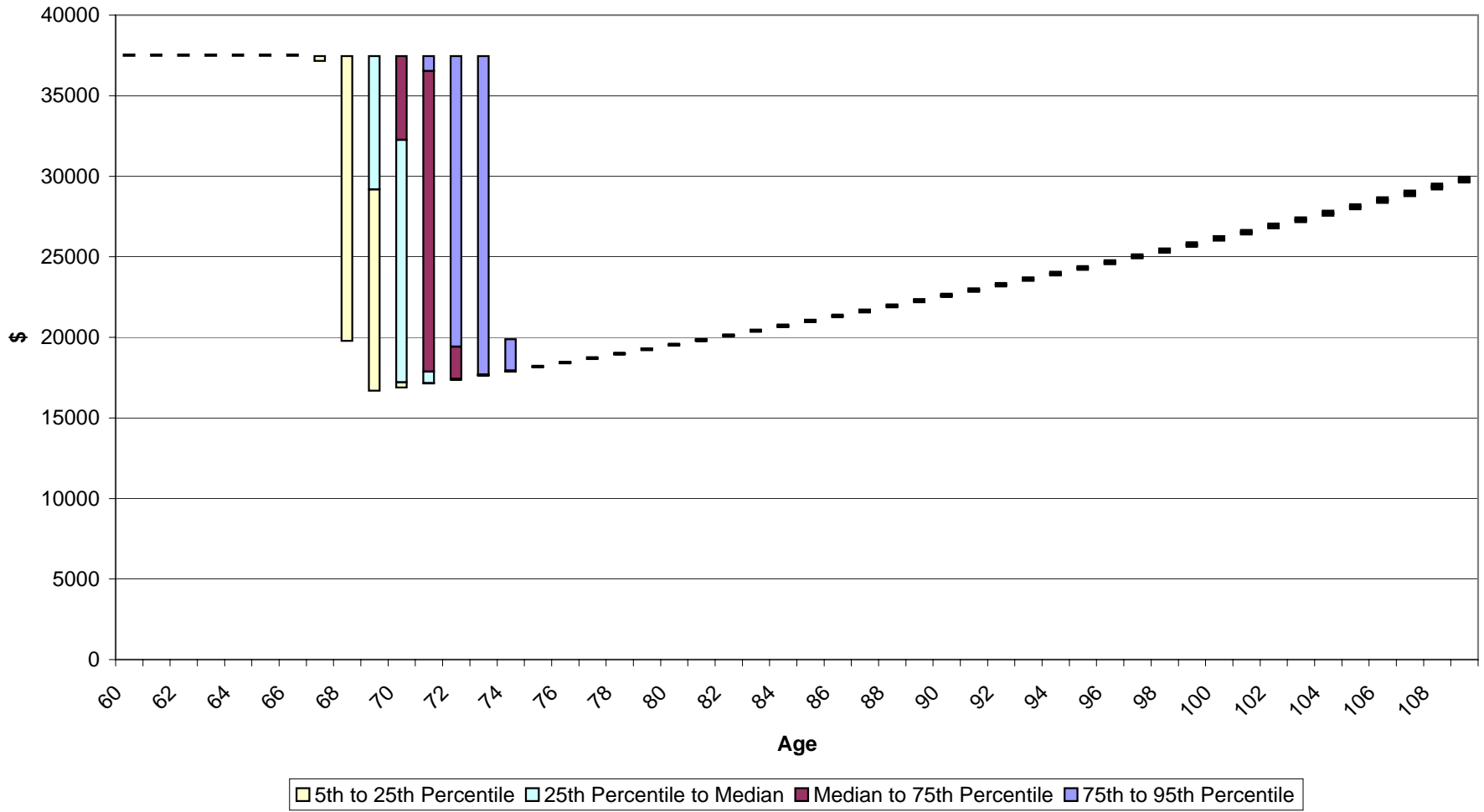
**Projected Total Income**

Age 60 retiree, Account Balance = \$500,000, Comfortable Income Target, 30% Deferred Annuitisation , 40% income taper, \$1.50 asset taper



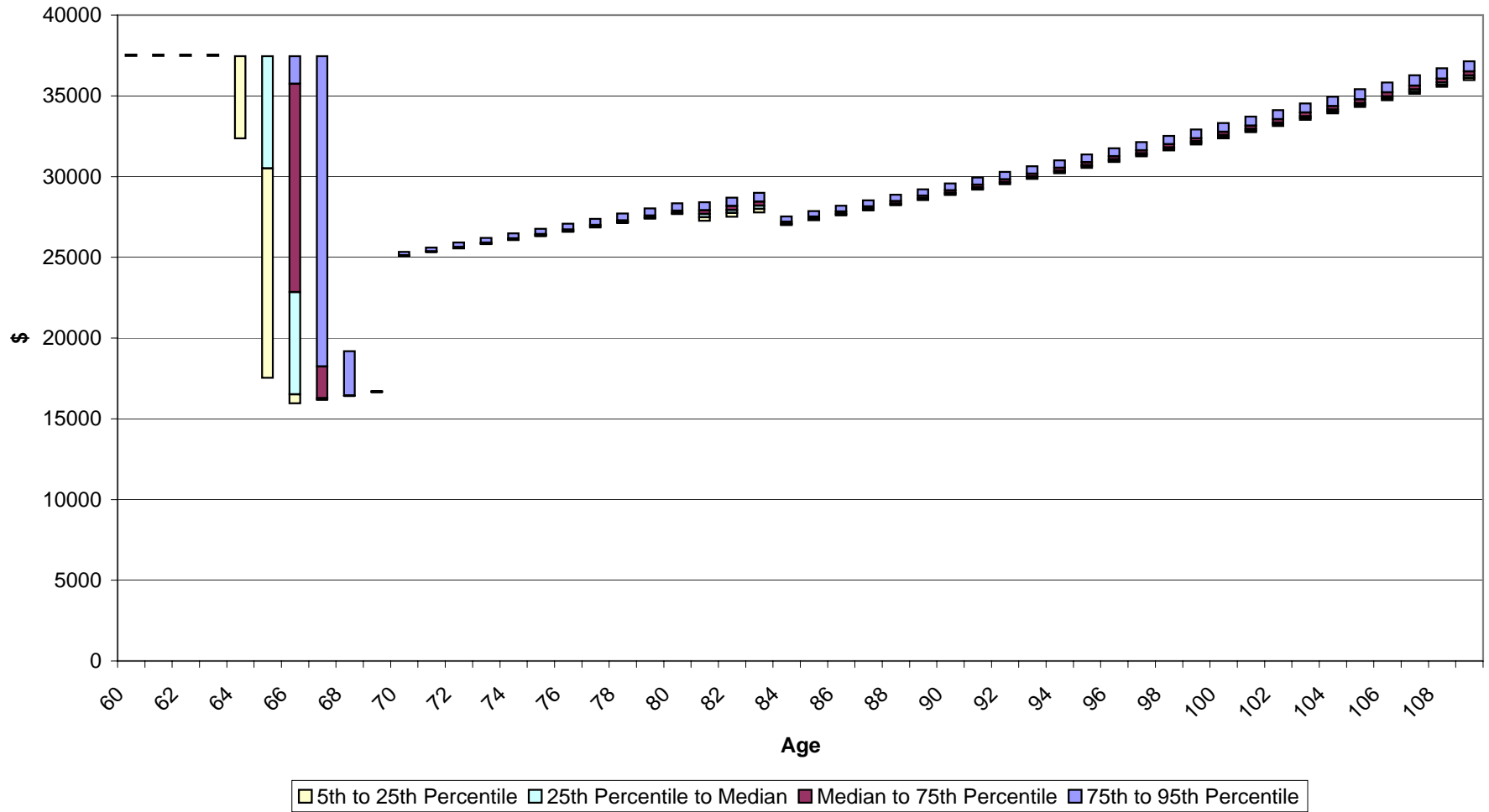
### Projected Total Income

Age 60 retiree, Account Balance = \$300,000, Comfortable Income Target, 0% Immediate Annuitisation , 40% income taper, \$1.50 asset taper



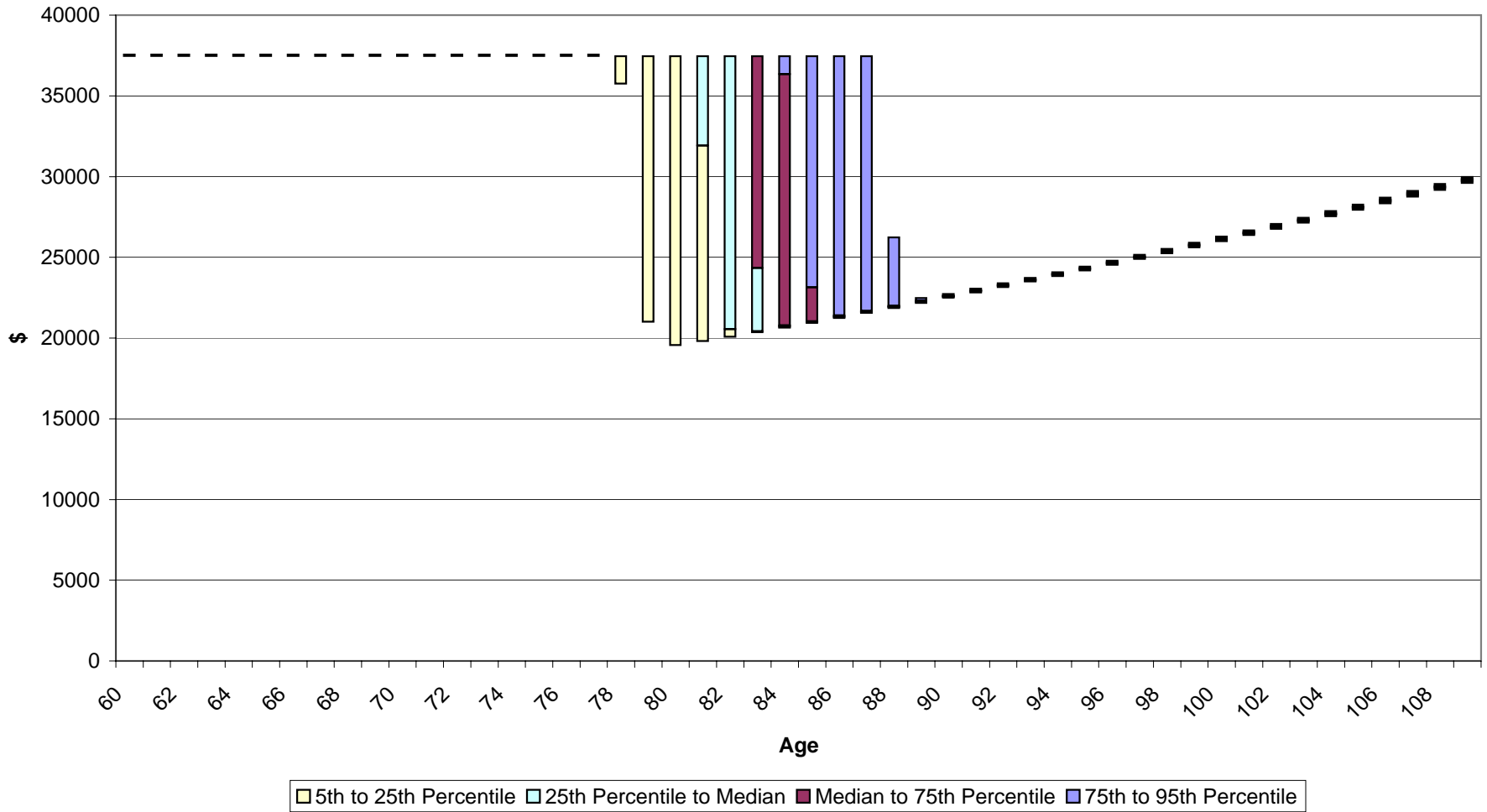
### Projected Total Income

Age 60 retiree, Account Balance = \$300,000, Comfortable Income Target, 30% Deferred Annuitisation , 40% income taper, \$1.50 asset taper



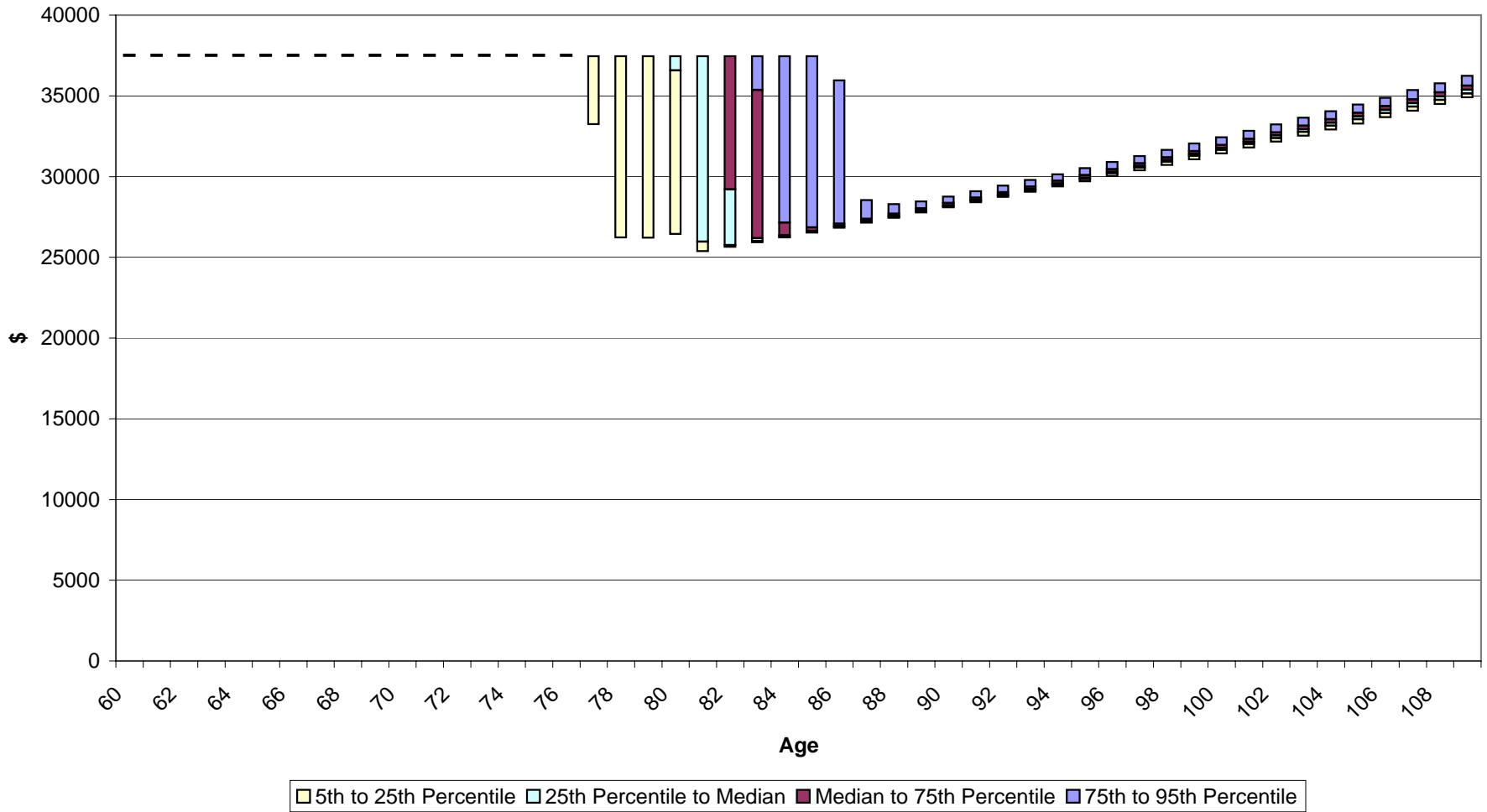
**Projected Total Income**

Age 60 retiree, Account Balance = \$500,000, Comfortable Income Target, 0% Immediate Annuitisation, new income taper, \$1.50 asset taper



### Projected Total Income

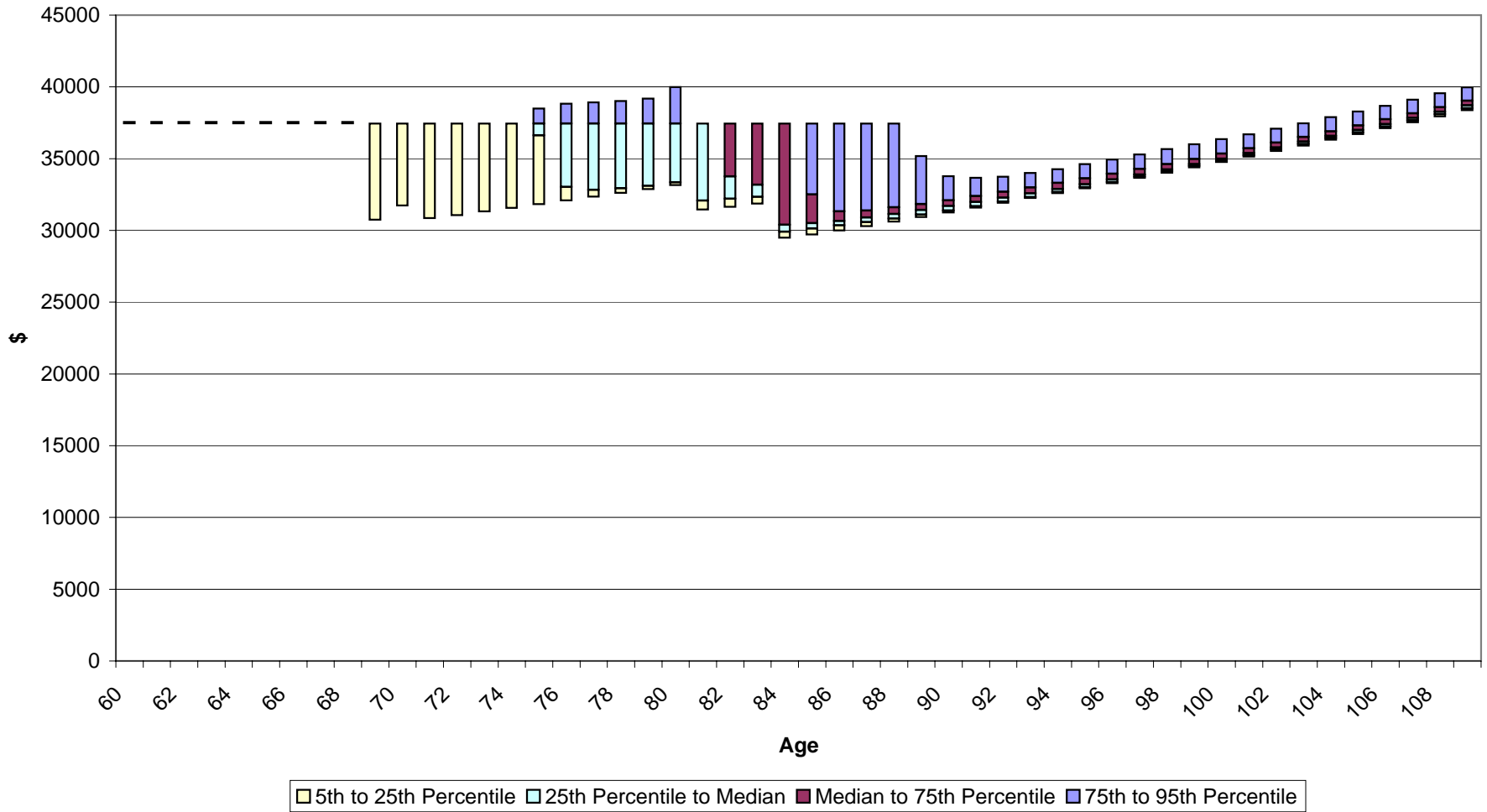
Age 60 retiree, Account Balance = \$500,000, Comfortable Income Target, 30% Immediate Annuitisation, new income taper, \$1.50 asset taper





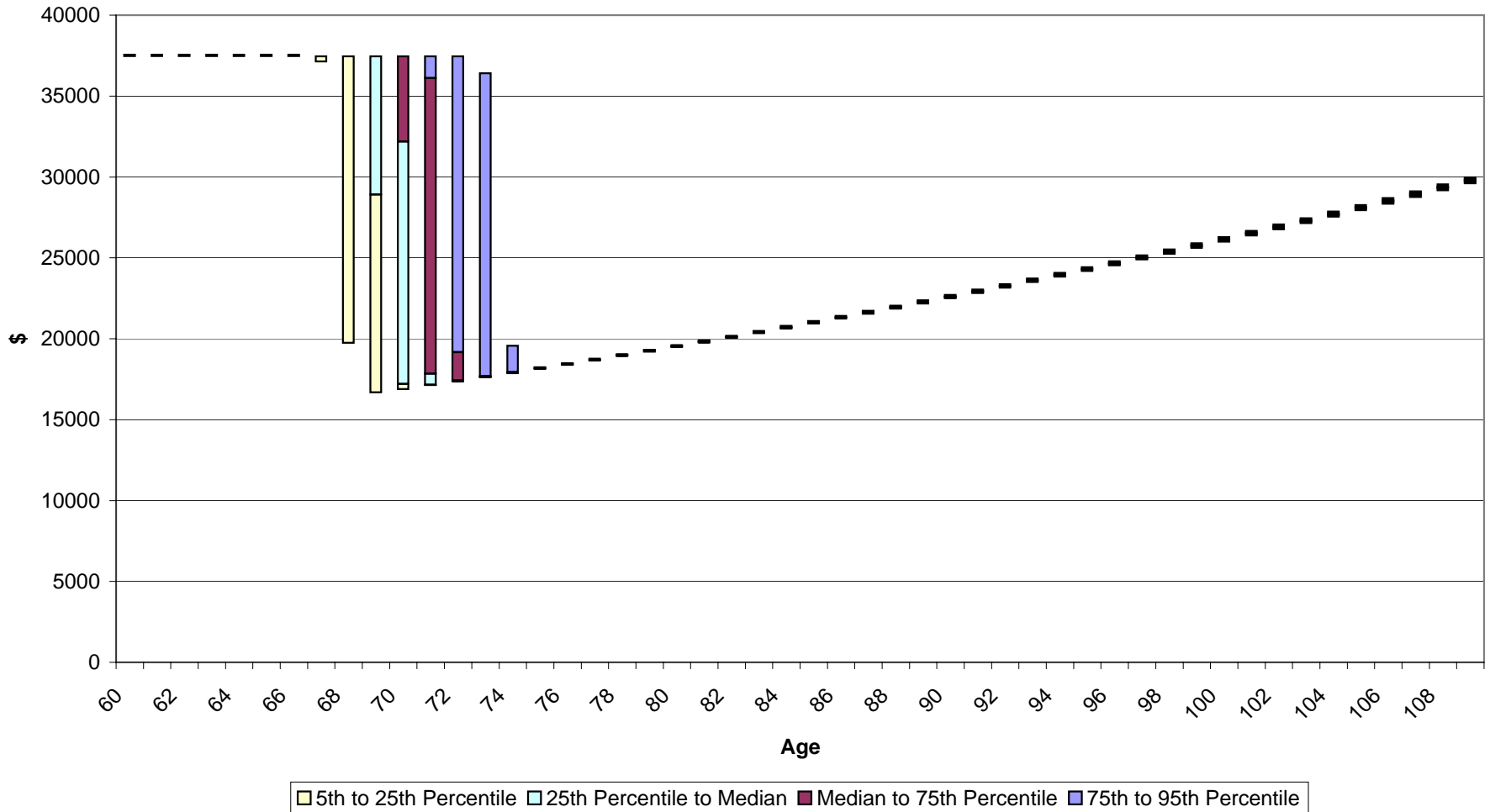
**Projected Total Income**

Age 60 retiree, Account Balance = \$500,000, Comfortable Income Target, 30% Deferred Annuitisation , new income taper, \$1.50 asset taper



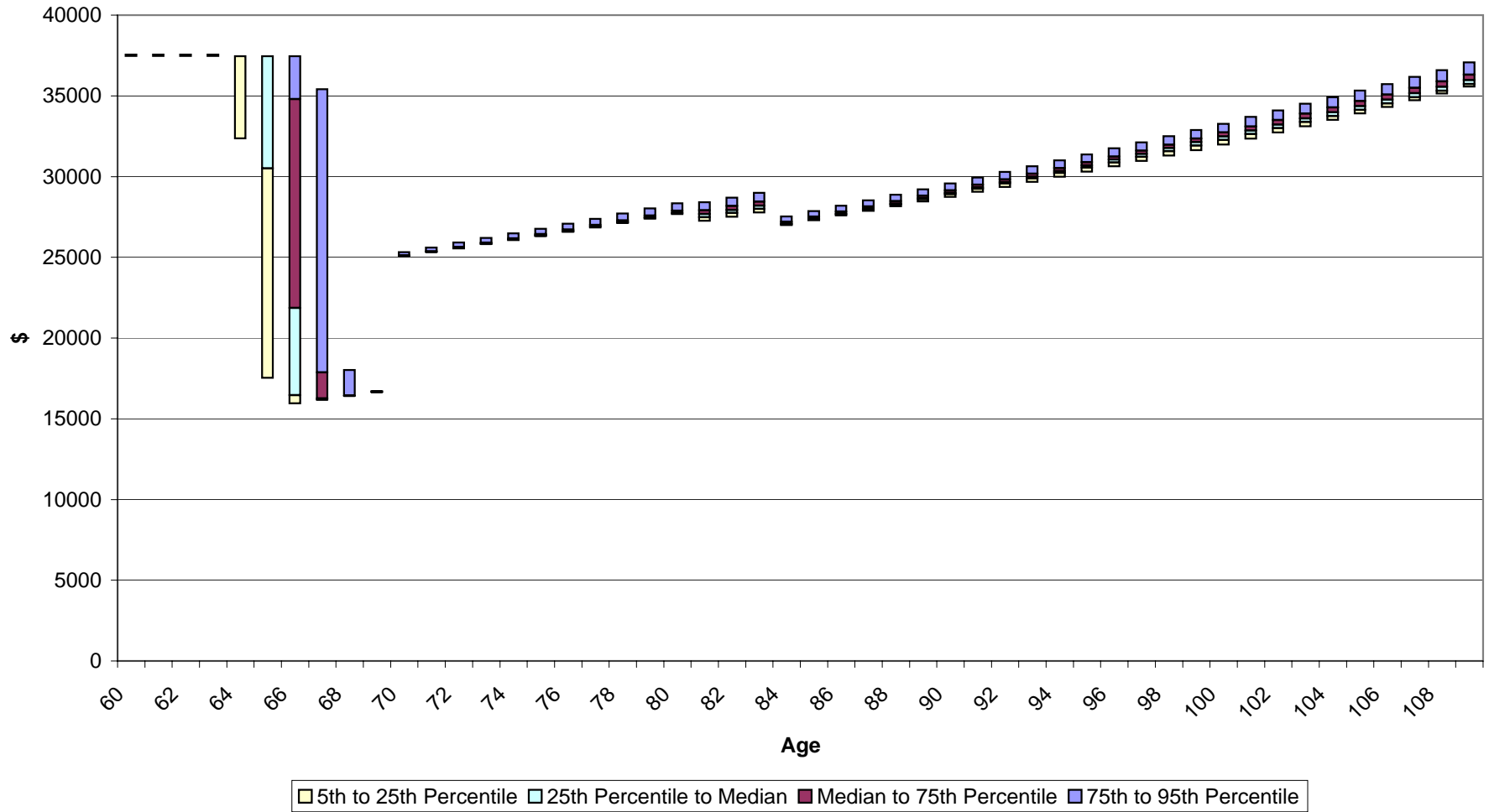
**Projected Total Income**

Age 60 retiree, Account Balance = \$300,000, Comfortable Income Target, 0% Immediate Annuitisation, new income taper, \$1.50 asset taper



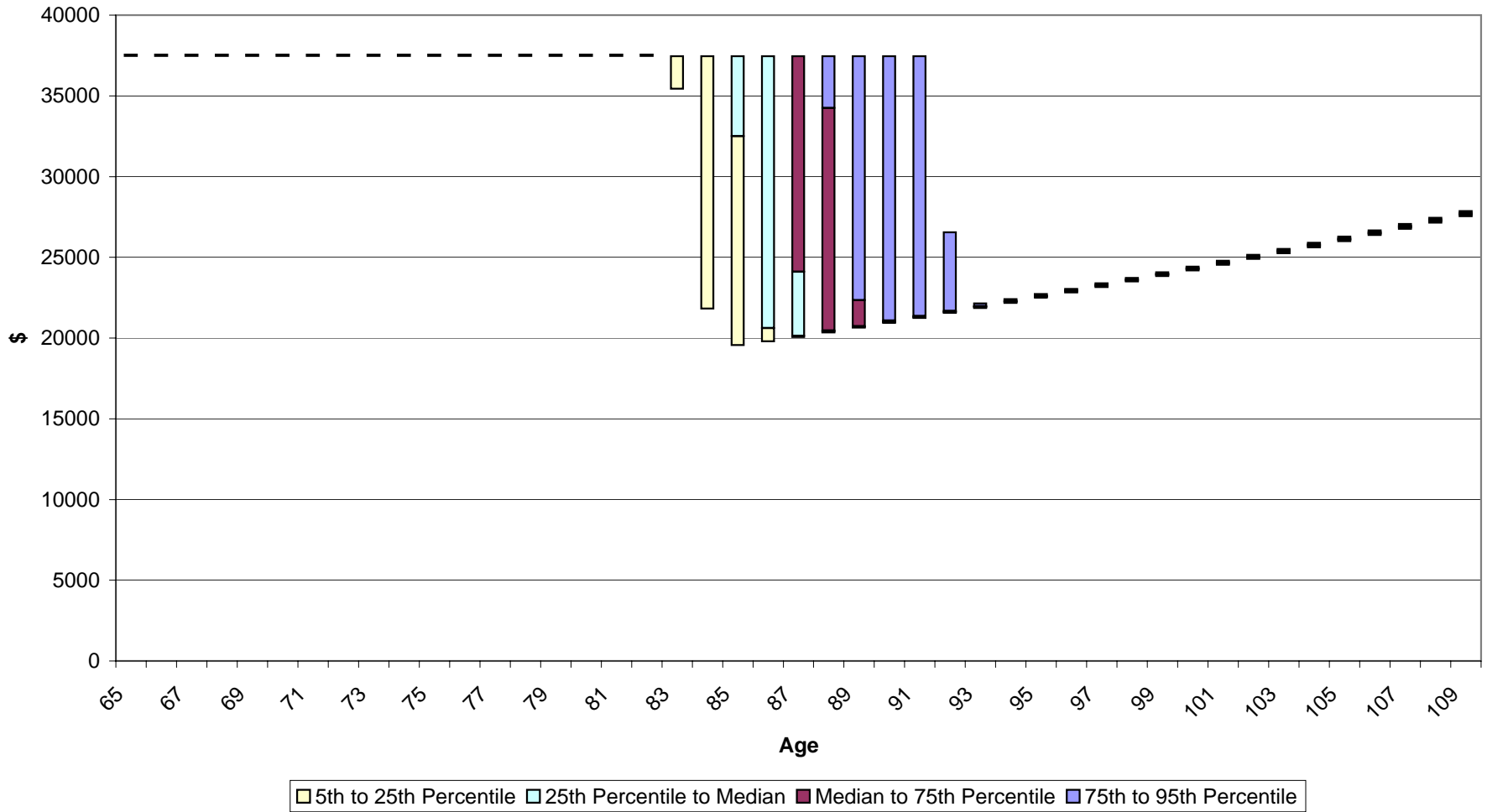
**Projected Total Income**

Age 60 retiree, Account Balance = \$300,000, Comfortable Income Target, 30% Deferred Annuitisation , new income taper, \$1.50 asset taper



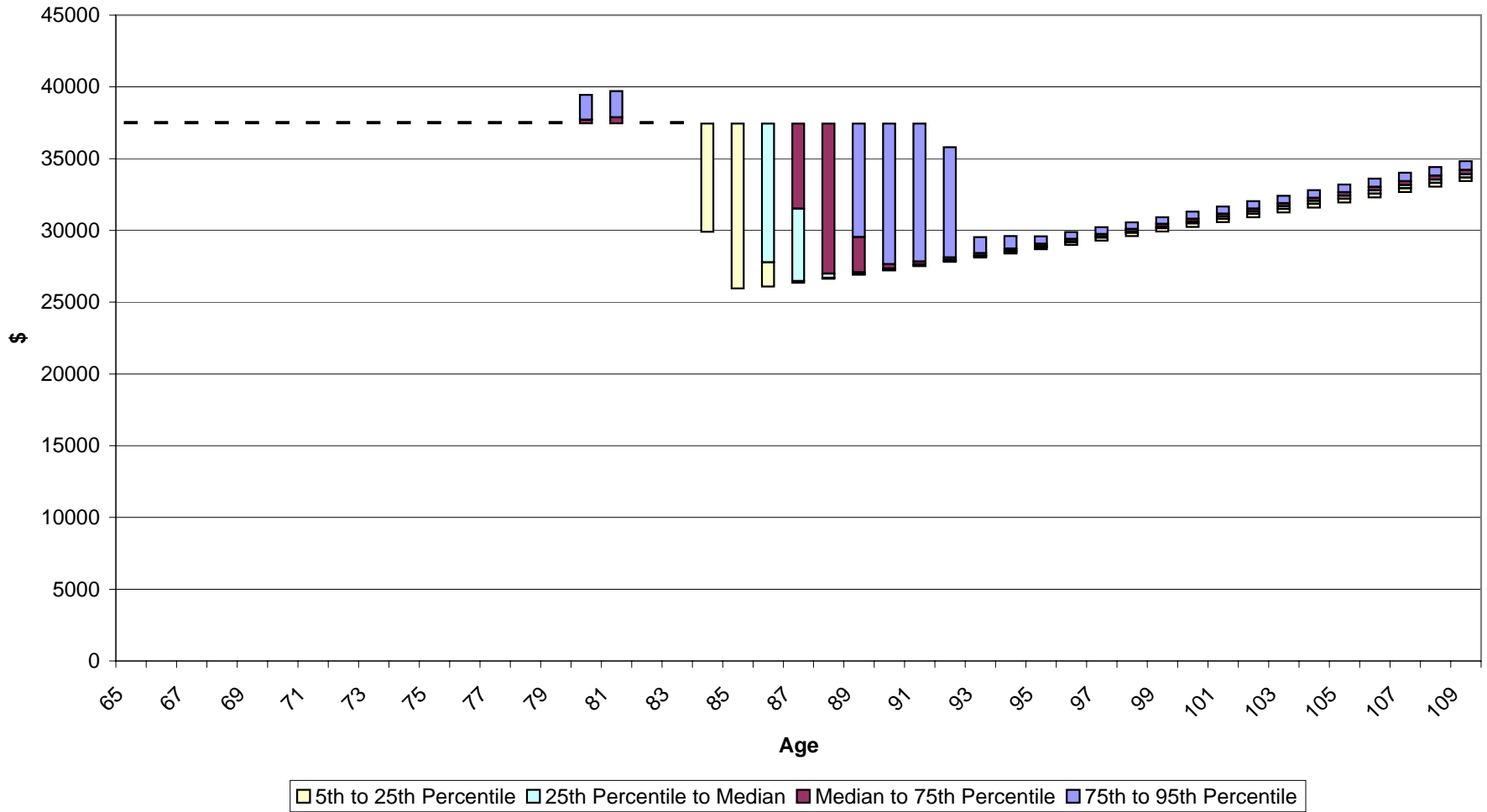
**Projected Total Income**

Age 65 retiree, Account Balance = \$500,000, Comfortable Income Target, 0% Immediate Annuitisation, new income taper, \$1.50 asset taper



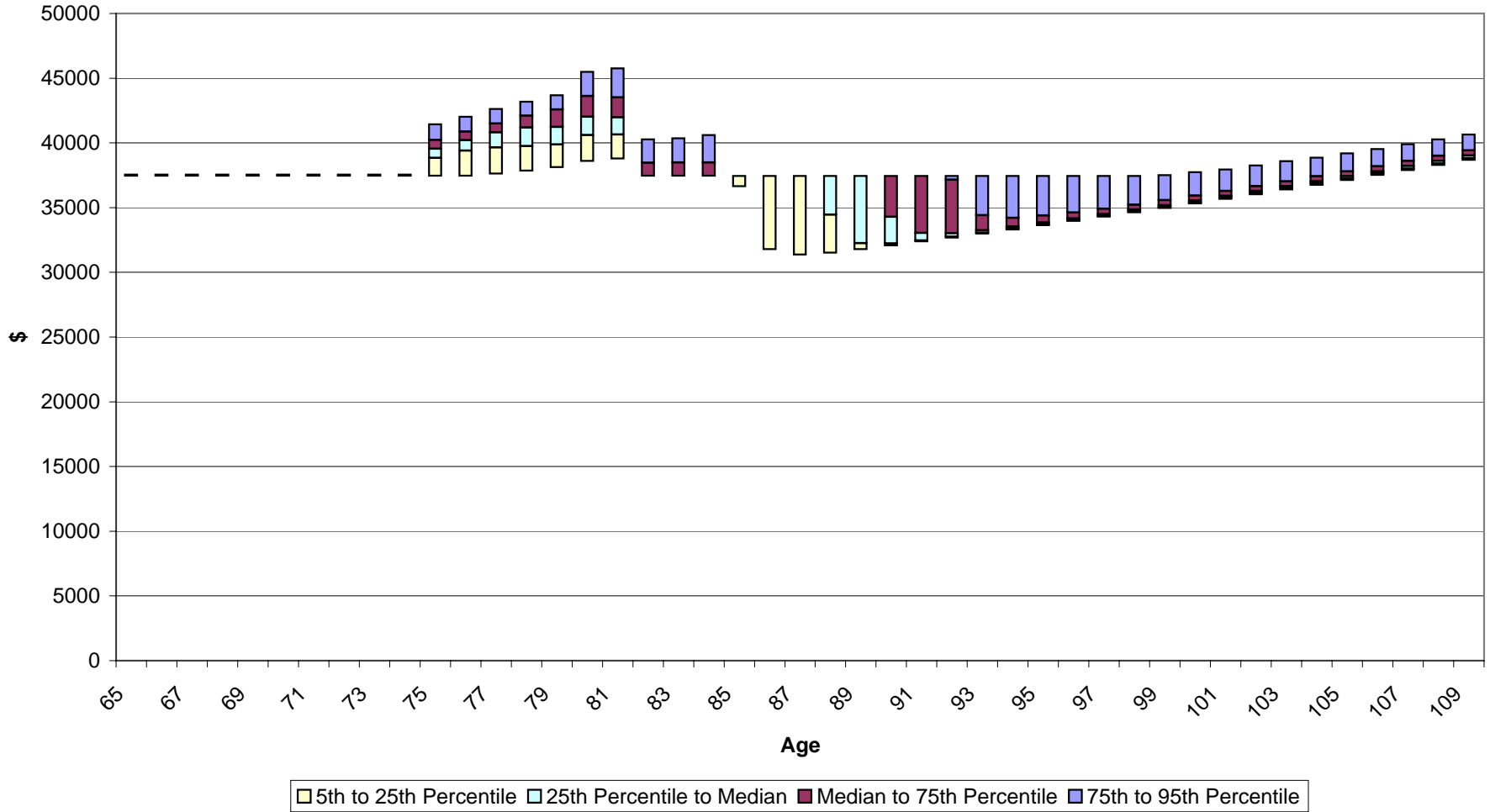
### Projected Total Income

Age 65 retiree, Account Balance = \$500,000, Comfortable Income Target, 30% Immediate Annuitisation, new income taper, \$1.50 asset taper



**Projected Total Income**

Age 65 retiree, Account Balance = \$500,000, Comfortable Income Target, 30% Deferred Annuitisation , new income taper, \$1.50 asset taper



## AGE 65 RETIREMENT INCOME CHARTS

This appendix contains charts illustrating a range of outcomes (5<sup>th</sup> to 95<sup>th</sup> percentile) for the account based pension assets and various components of retirement income (including account based pension income, age pension income and lifetime annuity income) of an individual retiring at age 65.

Results have been produced under various different starting retirement asset, target income and annuitisation scenarios, assuming the current means testing rules for the Age Pension.

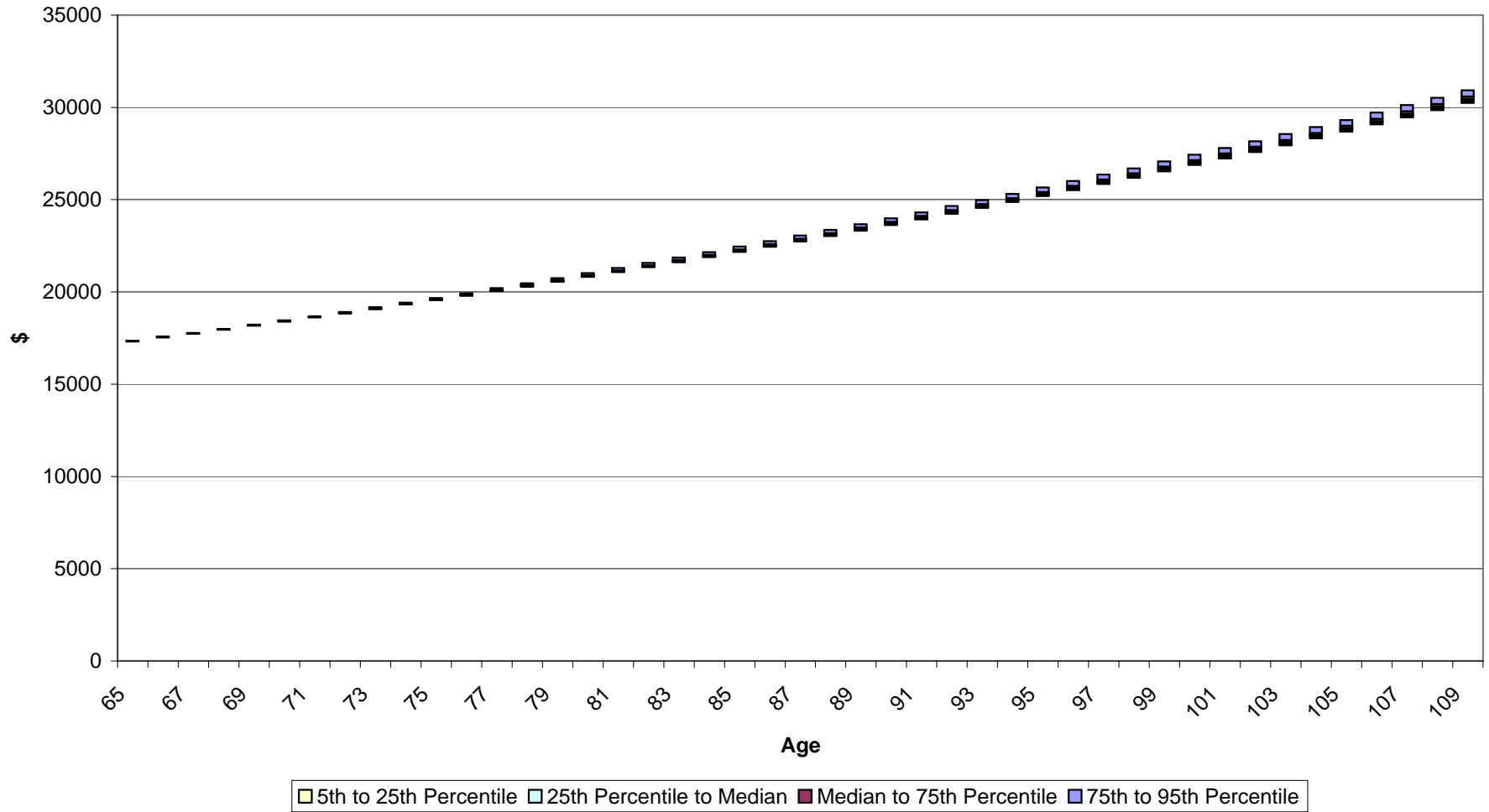
| <b>Contents</b>   | <b>Page No.</b> |
|---|-----------------|
| Account Balance \$50,000, Comfortable Income, 100% Immediate Annuitisation  | E.1             |
| Account Balance \$50,000, Comfortable Income, 30% Deferred Annuitisation    | E.6             |
| Account Balance \$50,000, Comfortable Income, 30% Immediate Annuitisation   | E.11            |
| Account Balance \$50,000, Modest Income, 100% Immediate Annuitisation       | E.16            |
| Account Balance \$50,000, Modest Income, 30% Deferred Annuitisation         | E.21            |
| Account Balance \$50,000, Modest Income, 30% Immediate Annuitisation        | E.26            |
| Account Balance \$150,000, Comfortable Income, 100% Immediate Annuitisation | E.31            |
| Account Balance \$150,000, Comfortable Income, 30% Deferred Annuitisation   | E.36            |
| Account Balance \$150,000, Comfortable Income, 30% Immediate Annuitisation  | E.41            |
| Account Balance \$150,000, Modest Income, 100% Immediate Annuitisation      | E.46            |
| Account Balance \$150,000, Modest Income, 30% Deferred Annuitisation        | E.51            |
| Account Balance \$150,000, Modest Income, 30% Immediate Annuitisation       | E.56            |
| Account Balance \$300,000, Comfortable Income, 100% Immediate Annuitisation | E.61            |
| Account Balance \$300,000, Comfortable Income, 30% Deferred Annuitisation   | E.66            |
| Account Balance \$300,000, Comfortable Income, 30% Immediate Annuitisation  | E.71            |
| Account Balance \$300,000, Modest Income, 100% Immediate Annuitisation      | E.76            |
| Account Balance \$300,000, Modest Income, 30% Deferred Annuitisation        | E.81            |
| Account Balance \$300,000, Modest Income, 30% Immediate Annuitisation       | E.86            |
| Account Balance \$500,000, Comfortable Income, 100% Immediate Annuitisation | E.91            |

|  |       |
|--|-------|
| Account Balance \$500,000, Comfortable Income, 30% Deferred Annuitisation  | E.96  |
| Account Balance \$500,000, Comfortable Income, 30% Immediate Annuitisation | E.101 |
| Account Balance \$500,000, Modest Income, 100% Immediate Annuitisation     | E.106 |
| Account Balance \$500,000, Modest Income, 30% Deferred Annuitisation       | E.111 |
| Account Balance \$500,000, Modest Income, 30% Immediate Annuitisation      | E.116 |



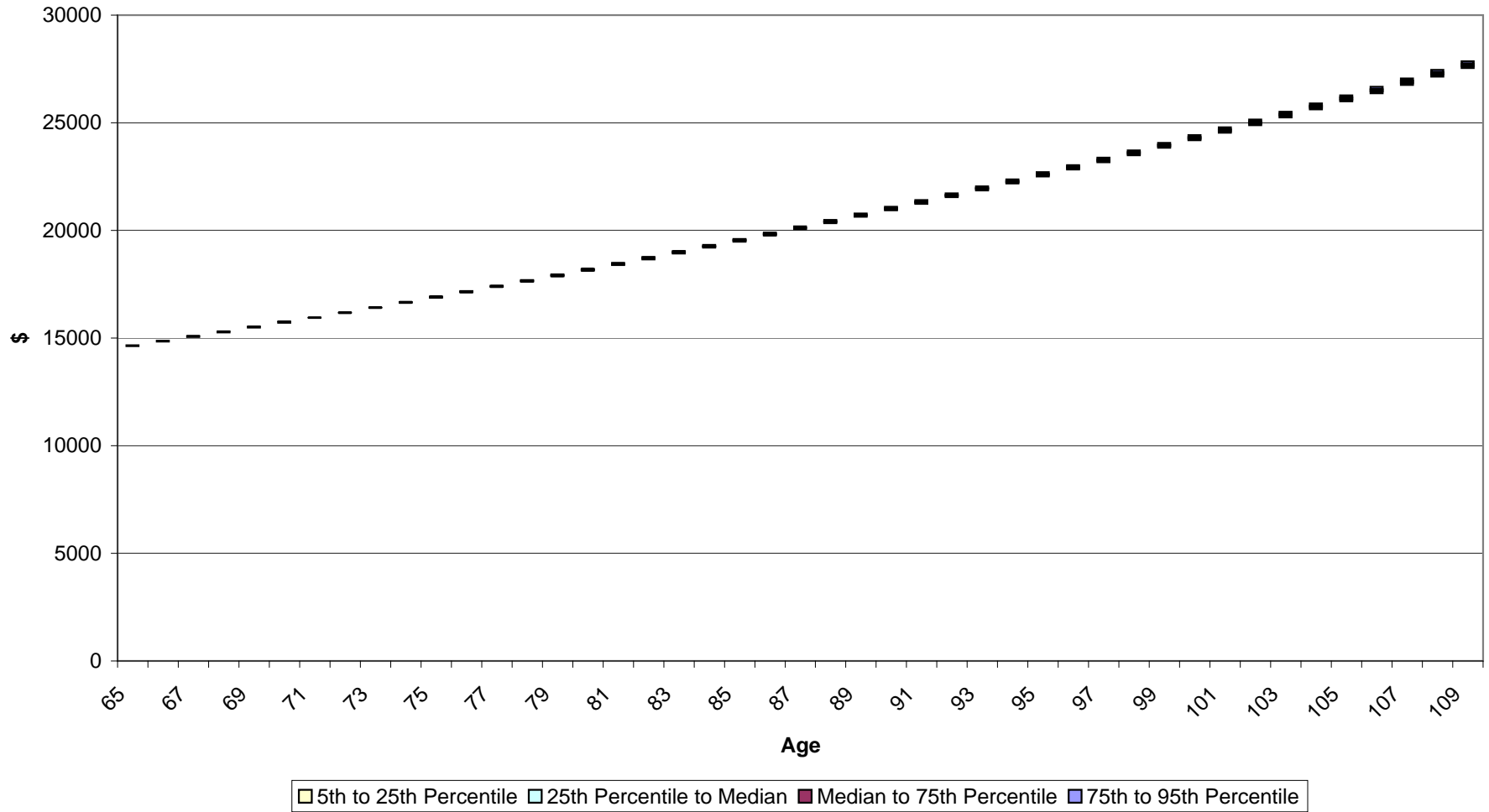
### Projected Total Income

Age 65 retiree, Account Balance = \$50,000, Comfortable Income Target, 100% Immediate Annuitisation , 40% income taper, \$1.50 asset taper



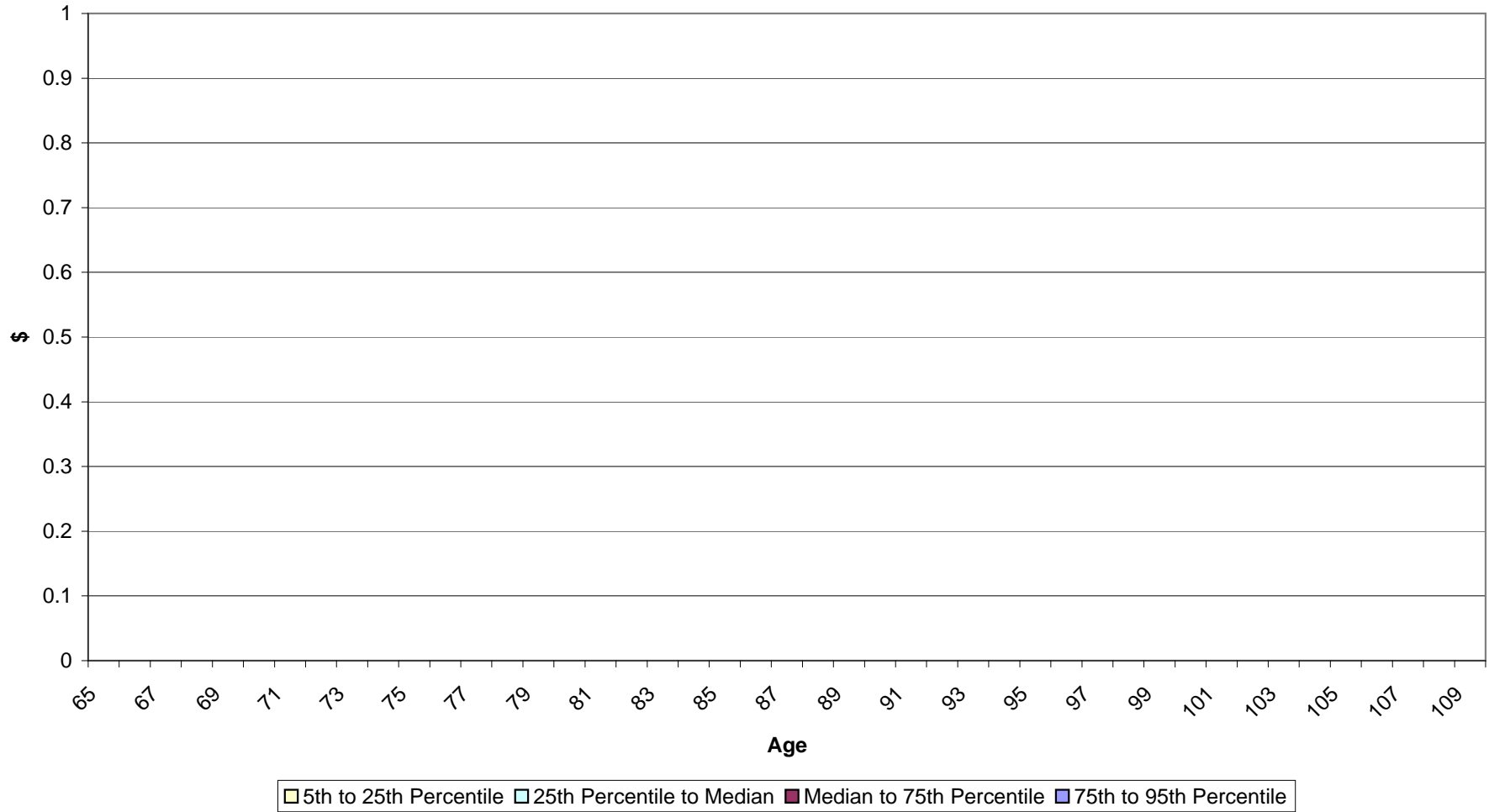
### Projected Age Pension

Age 65 retiree, Account Balance = \$50,000, Comfortable Income Target, 100% Immediate Annuitisation , 40% income taper, \$1.50 asset taper



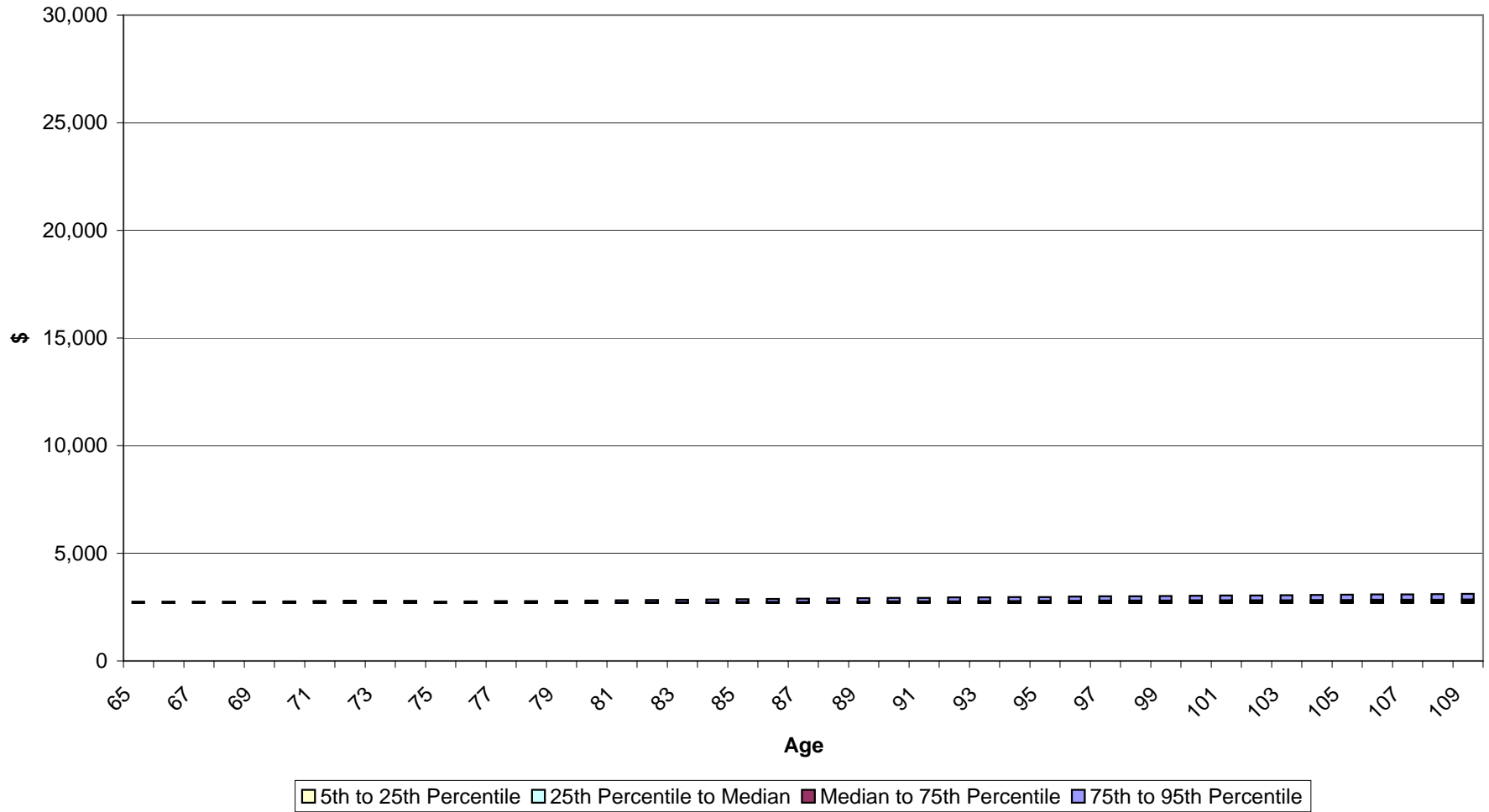
### Projected Account Based Pension Income

Age 65 retiree, Account Balance = \$50,000, Comfortable Income Target, 100% Immediate Annuitisation , 40% income taper, \$1.50 asset taper



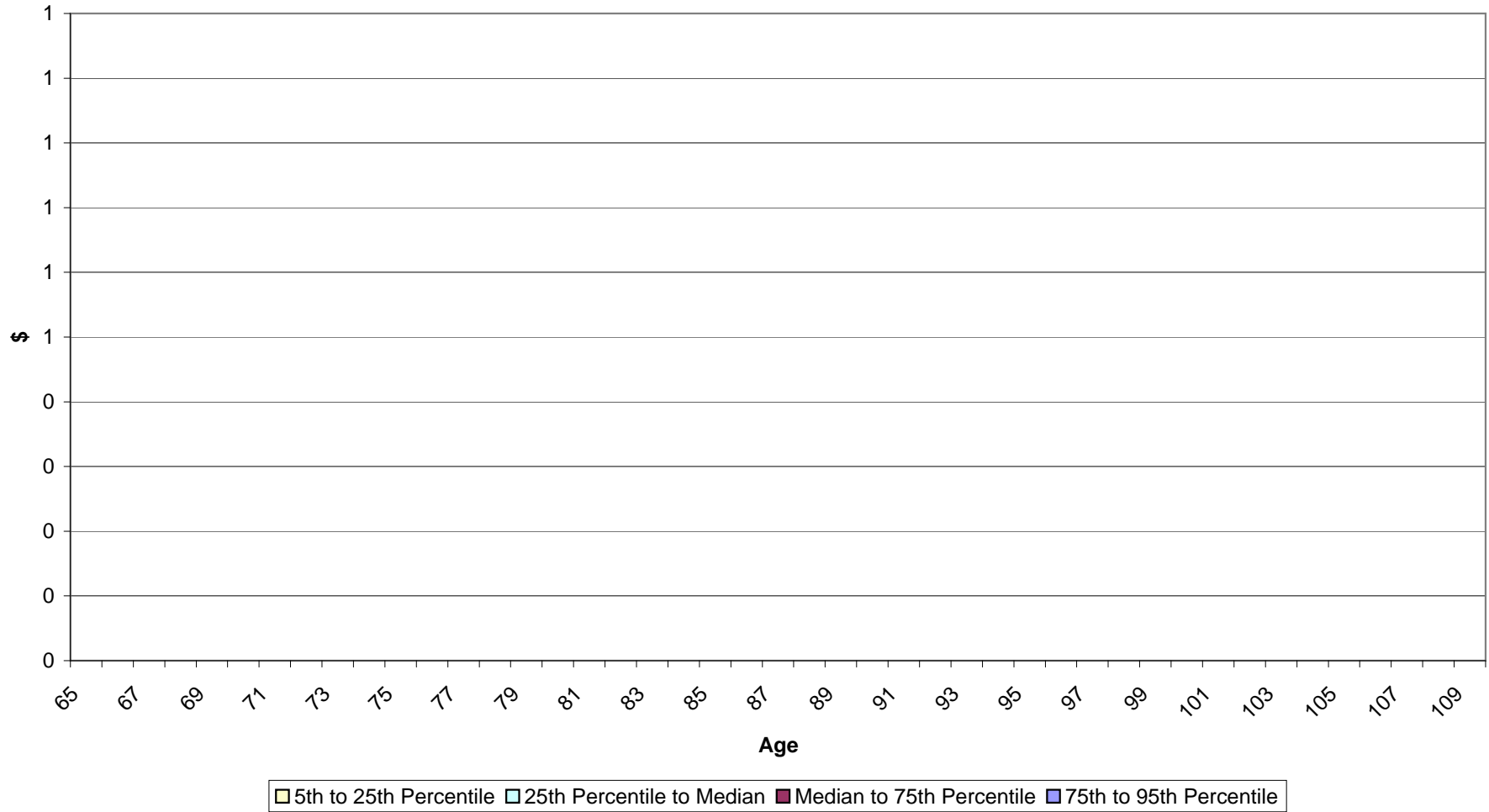
### Projected Annual Annuity Income

Age 65 retiree, Account Balance = \$50,000, Comfortable Income Target, 100% Immediate Annuitisation , 40% income taper, \$1.50 asset taper



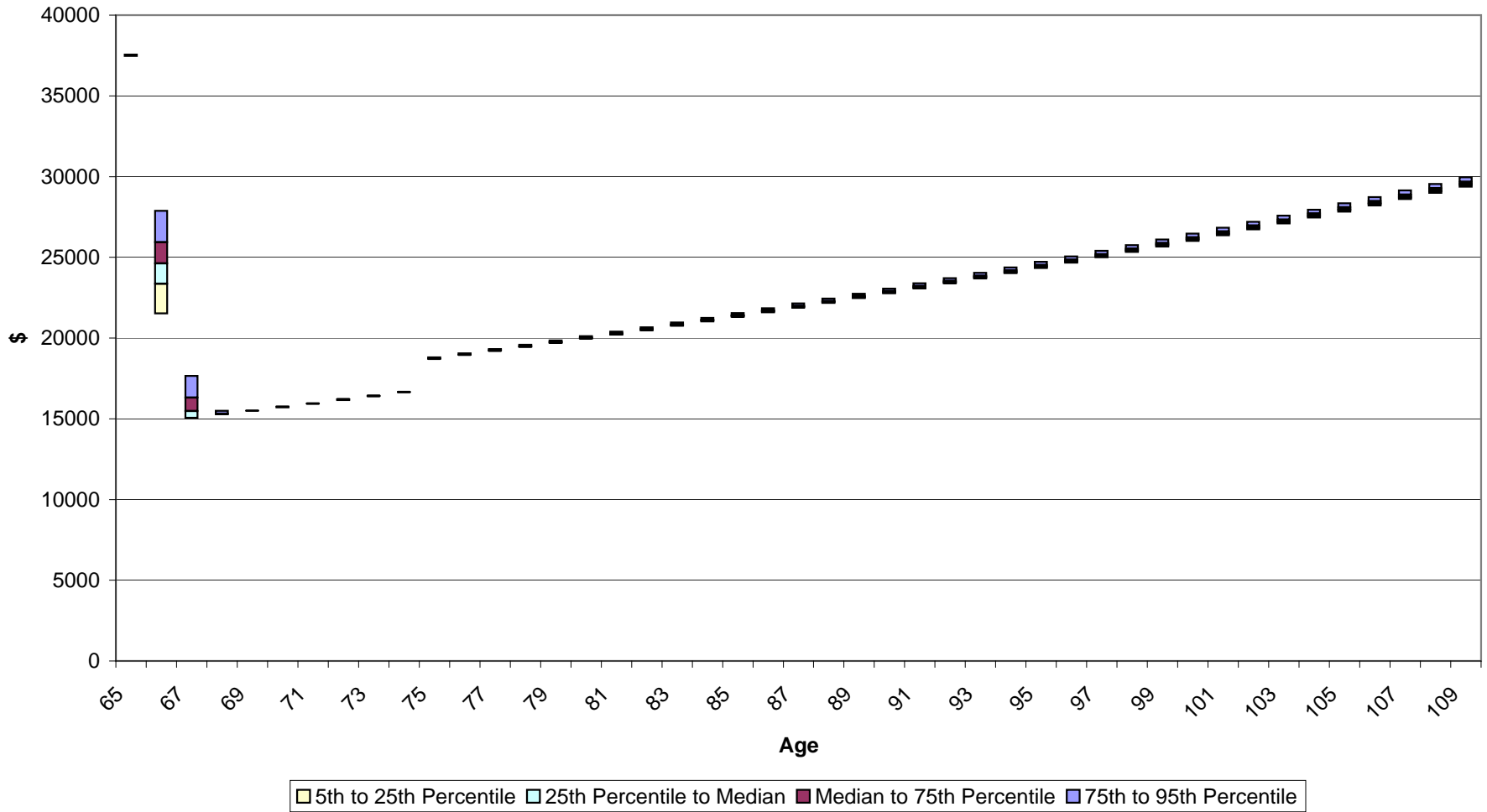
### Projected Account Based Pension Fund Balance

Age 65 retiree, Account Balance = \$50,000, Comfortable Income Target, 100% Immediate Annuitisation , 40% income taper, \$1.50 asset taper



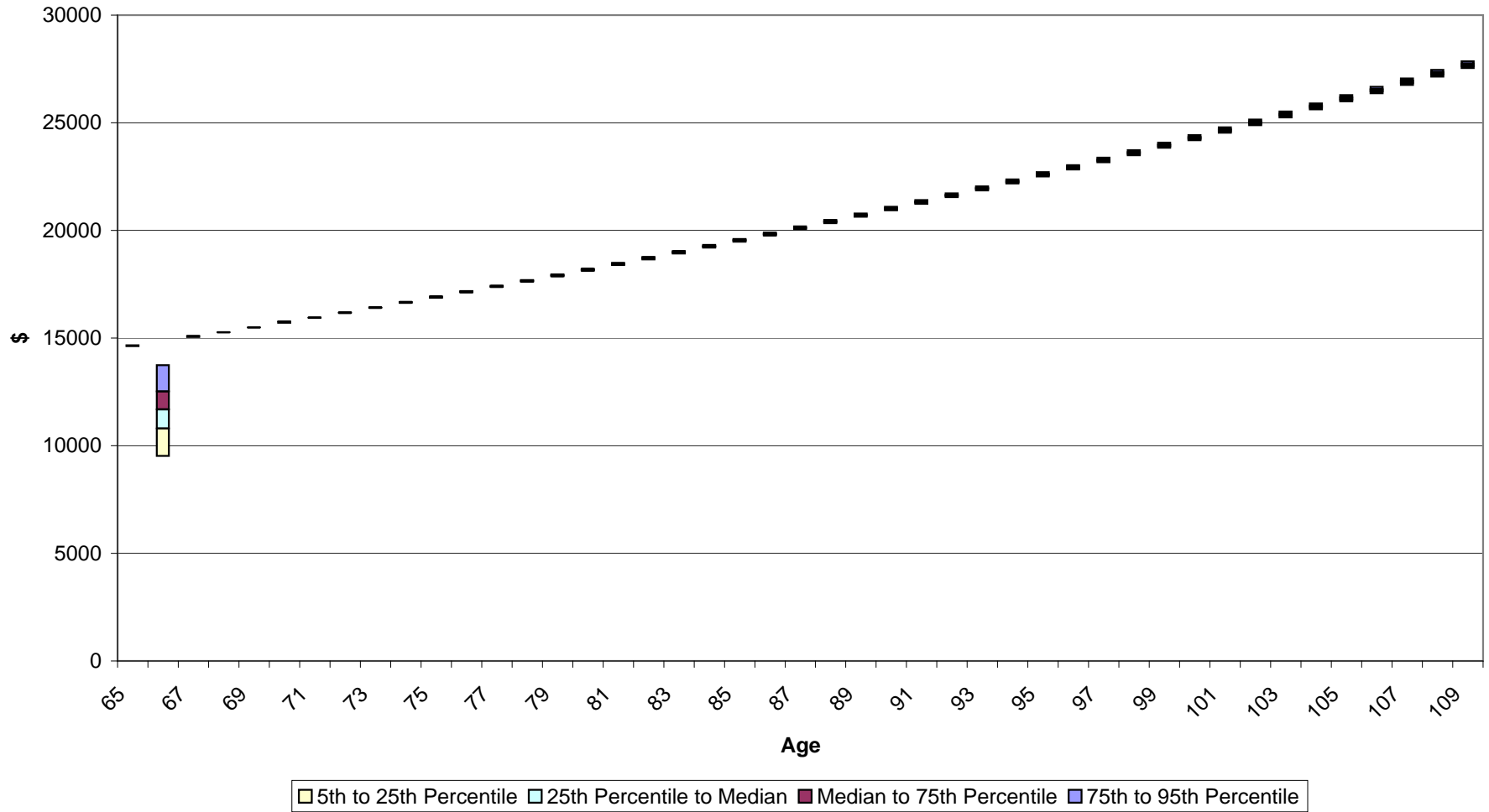
### Projected Total Income

Age 65 retiree, Account Balance = \$50,000, Comfortable Income Target, 30% Deferred Annuitisation , 40% income taper, \$1.50 asset taper



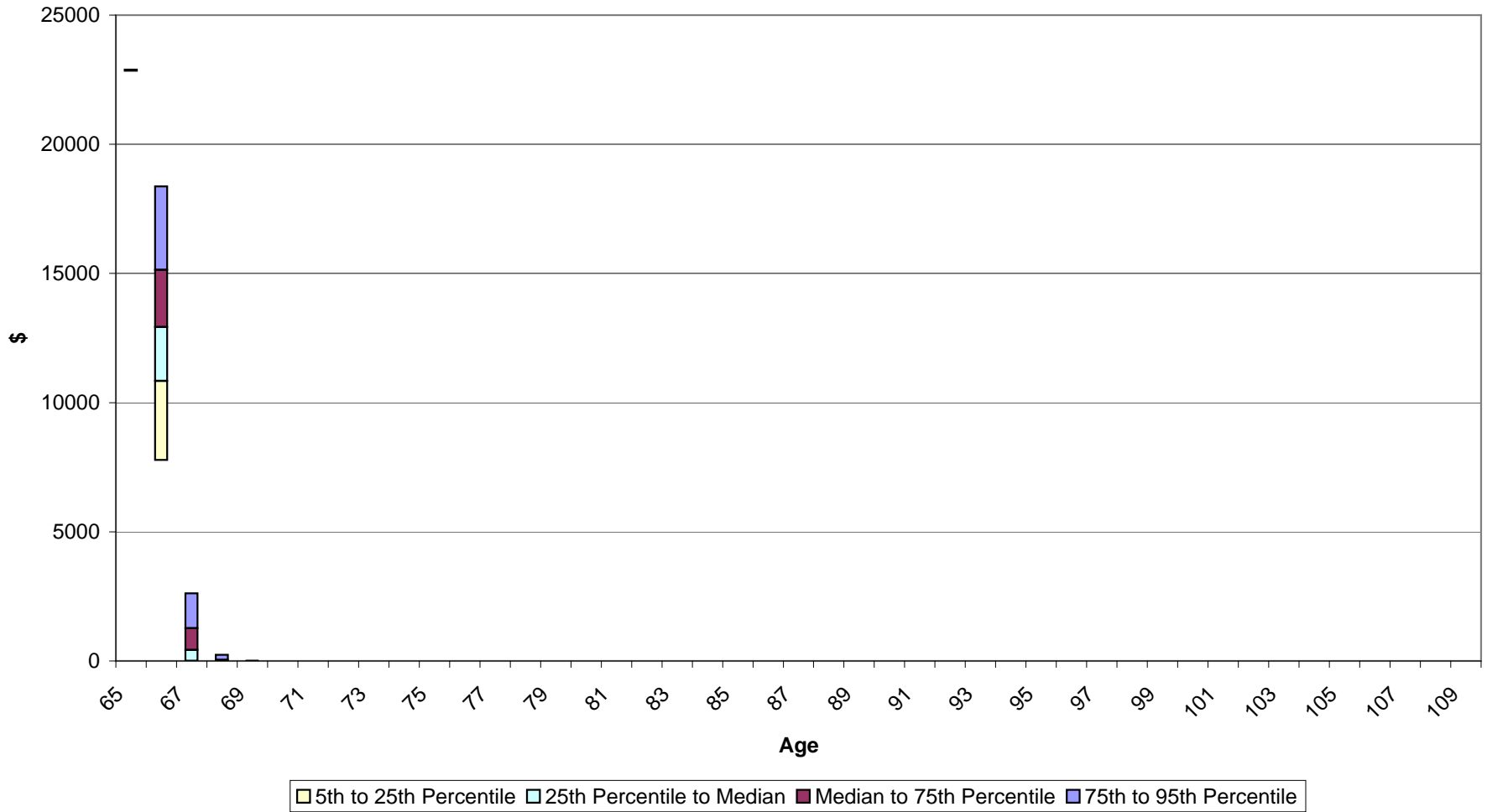
### Projected Age Pension

Age 65 retiree, Account Balance = \$50,000, Comfortable Income Target, 30% Deferred Annuitisation , 40% income taper, \$1.50 asset taper



**Projected Account Based Pension Income**

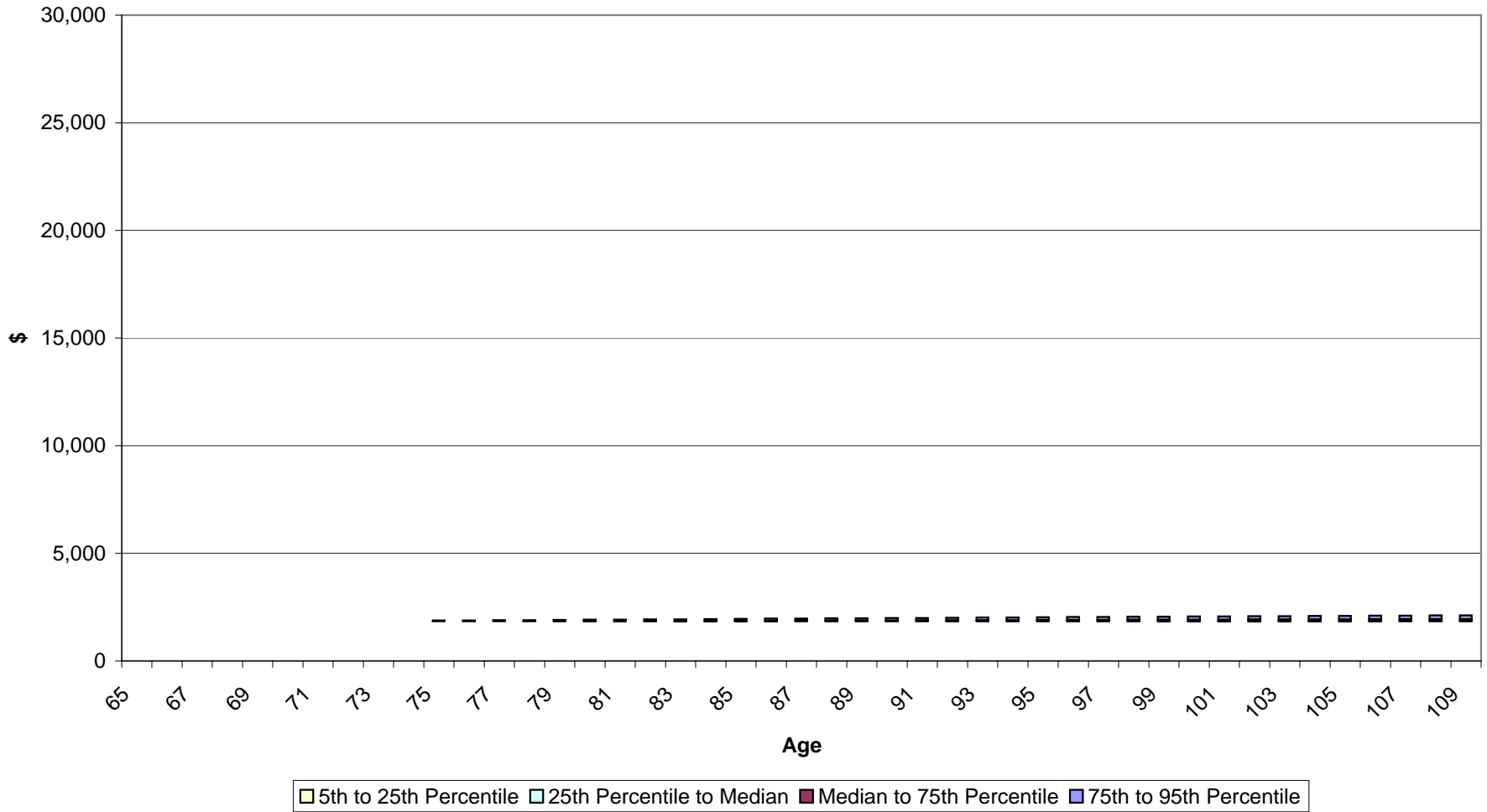
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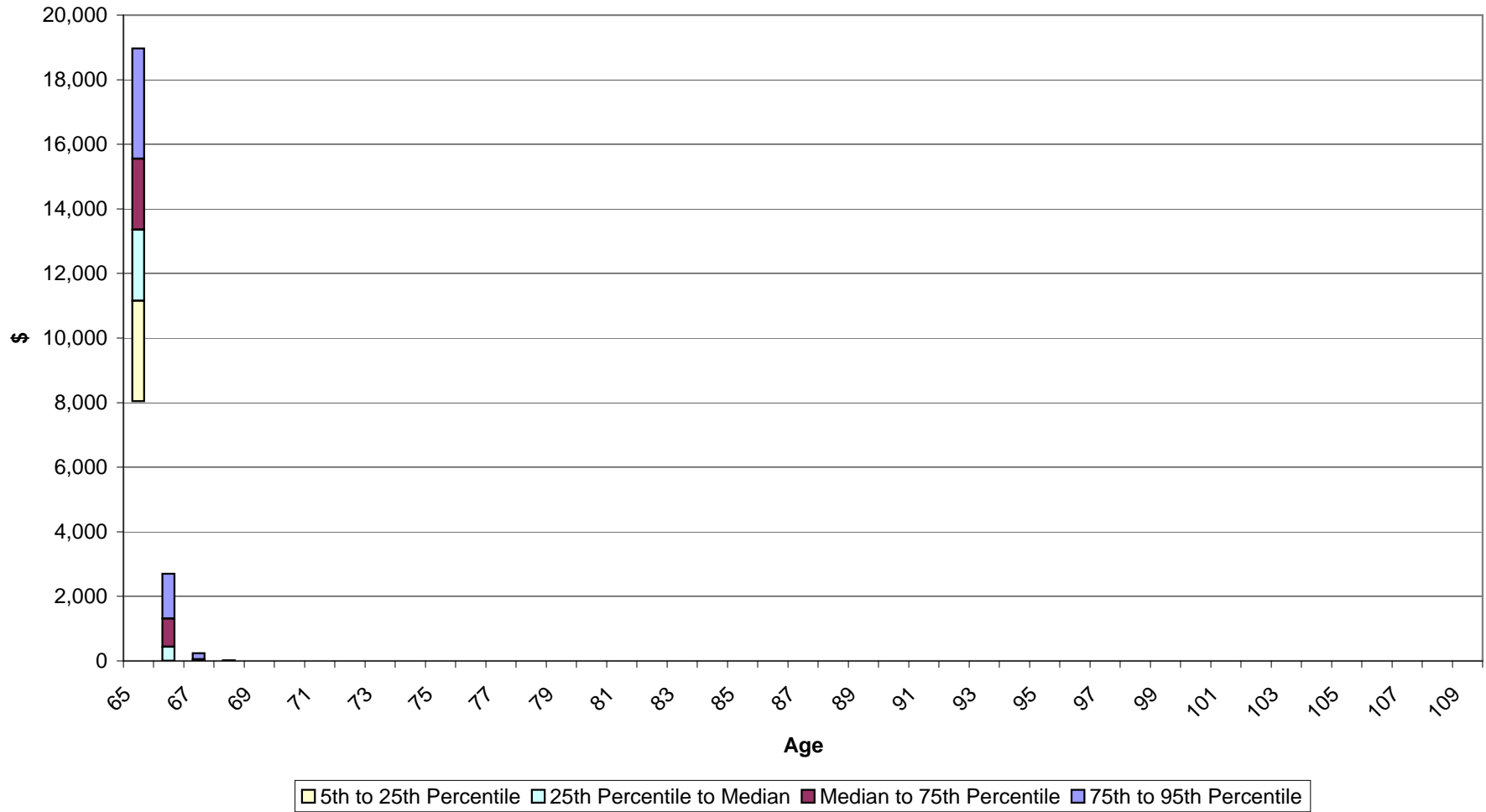
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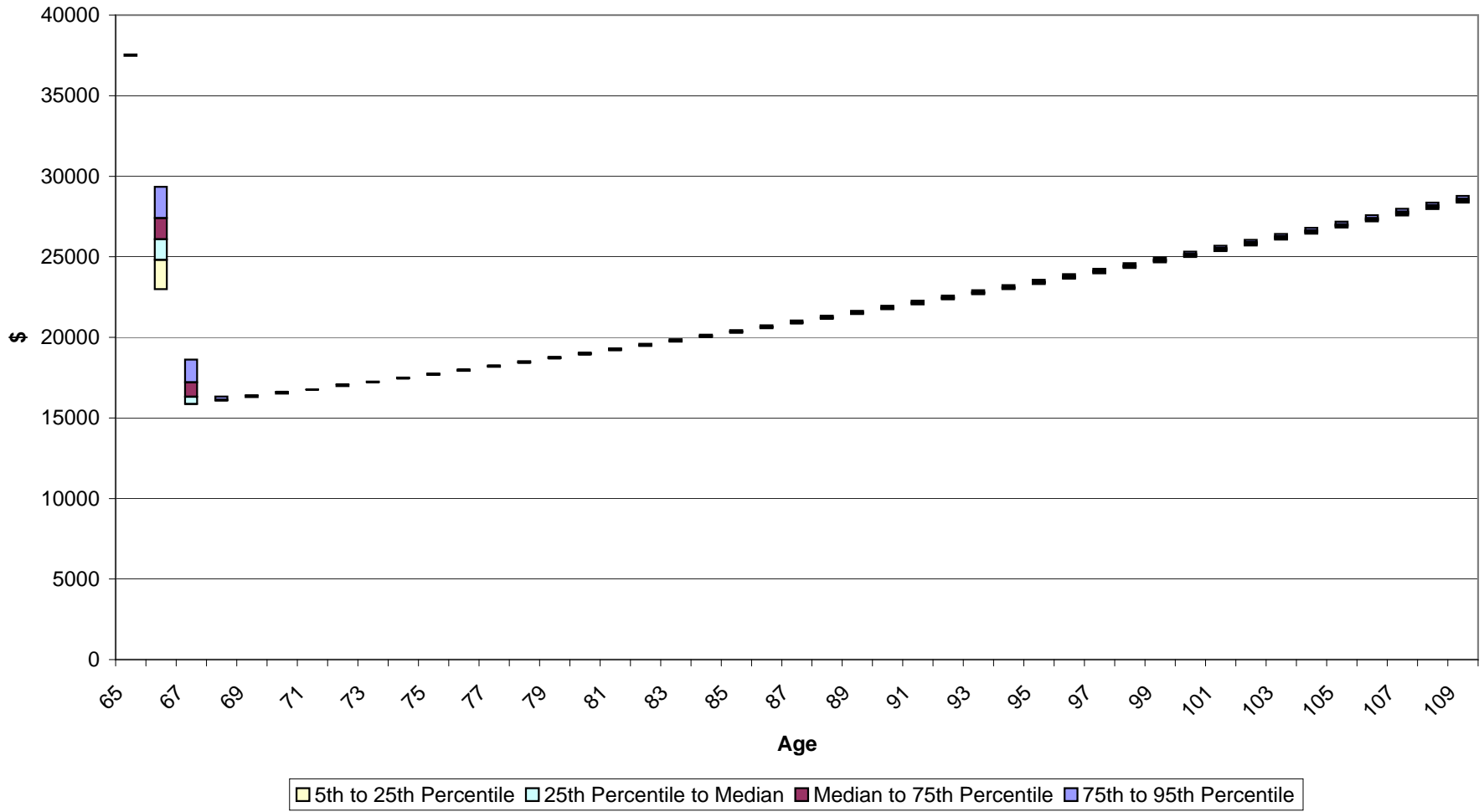
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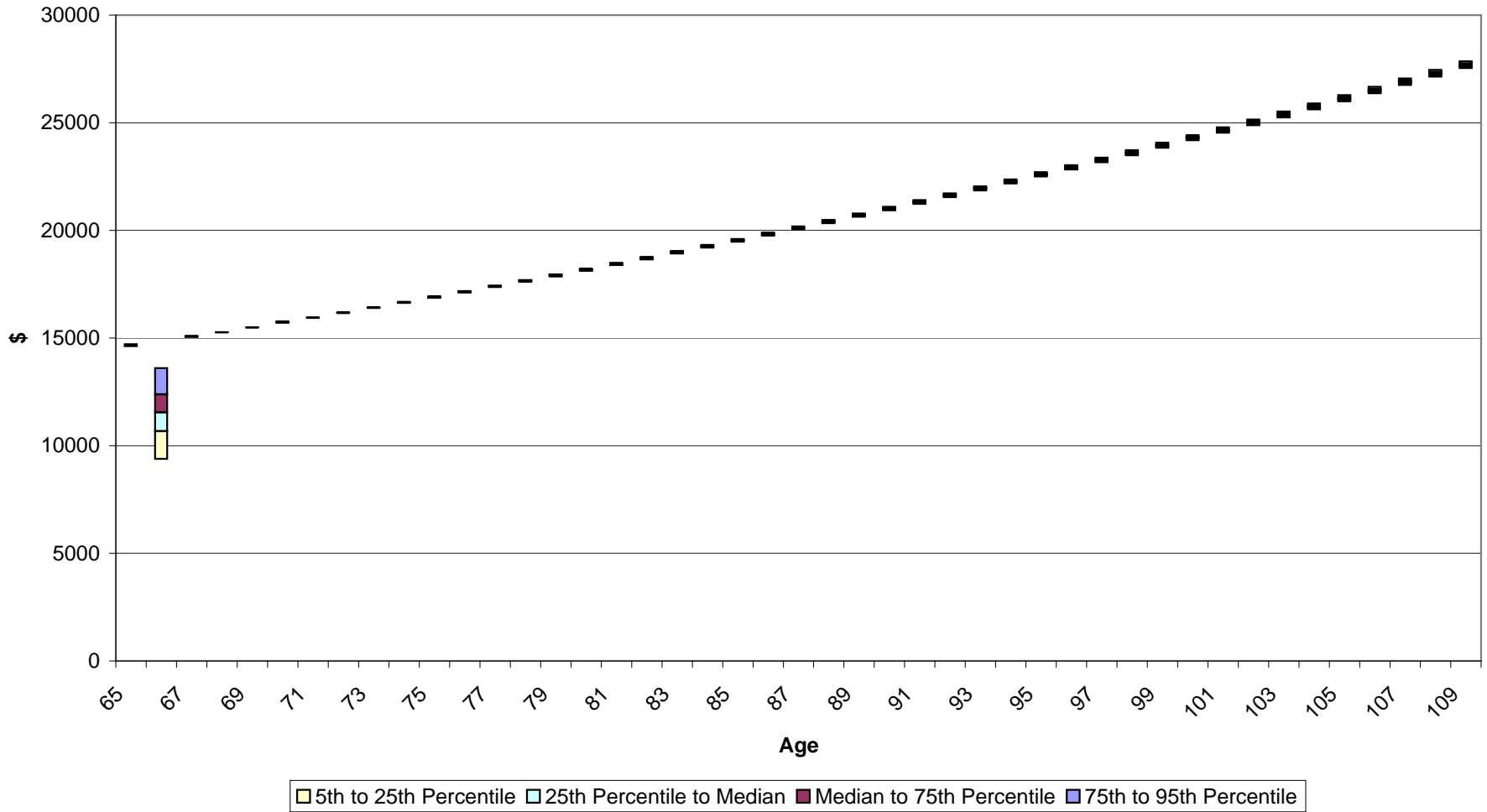
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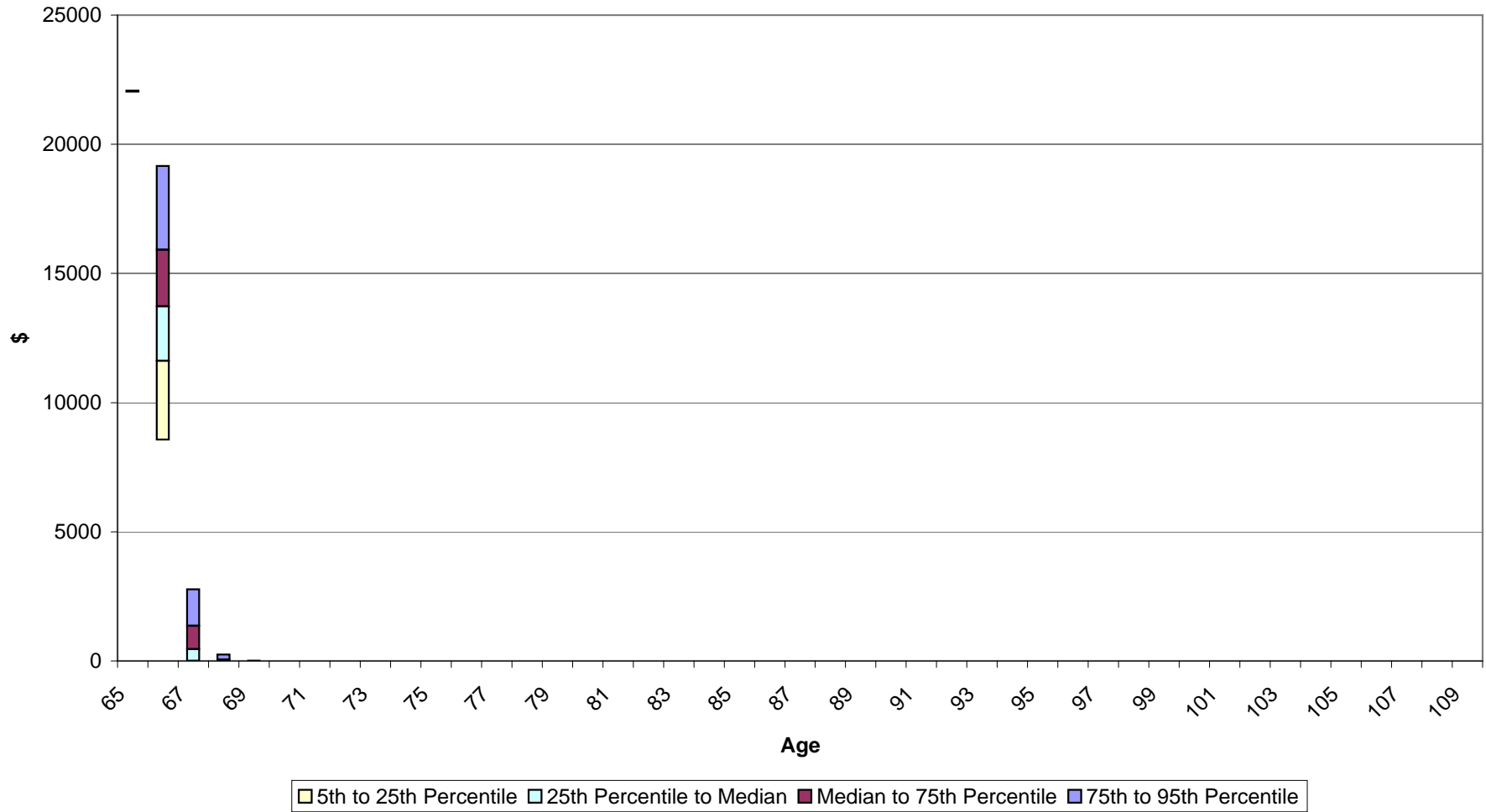
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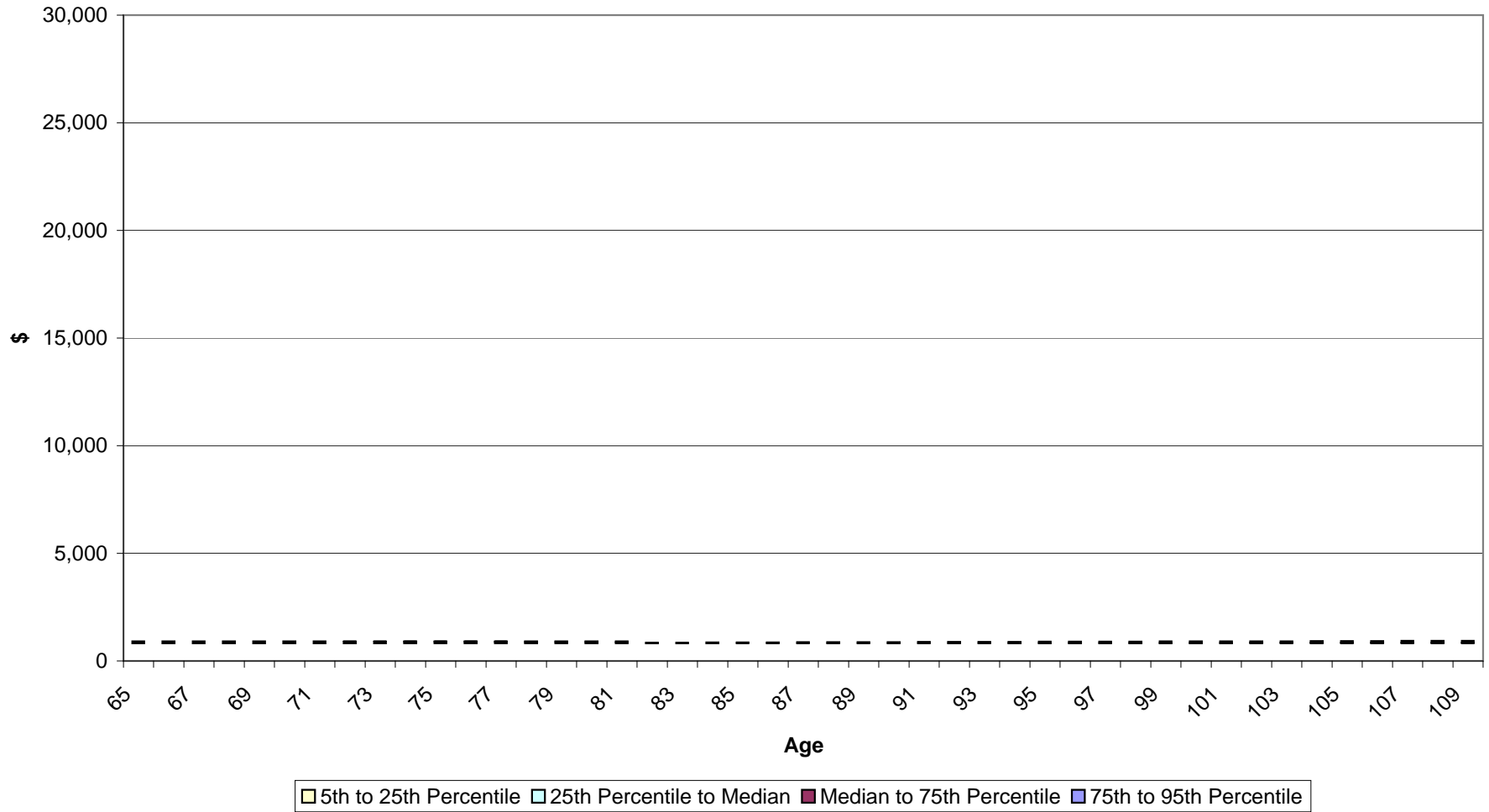
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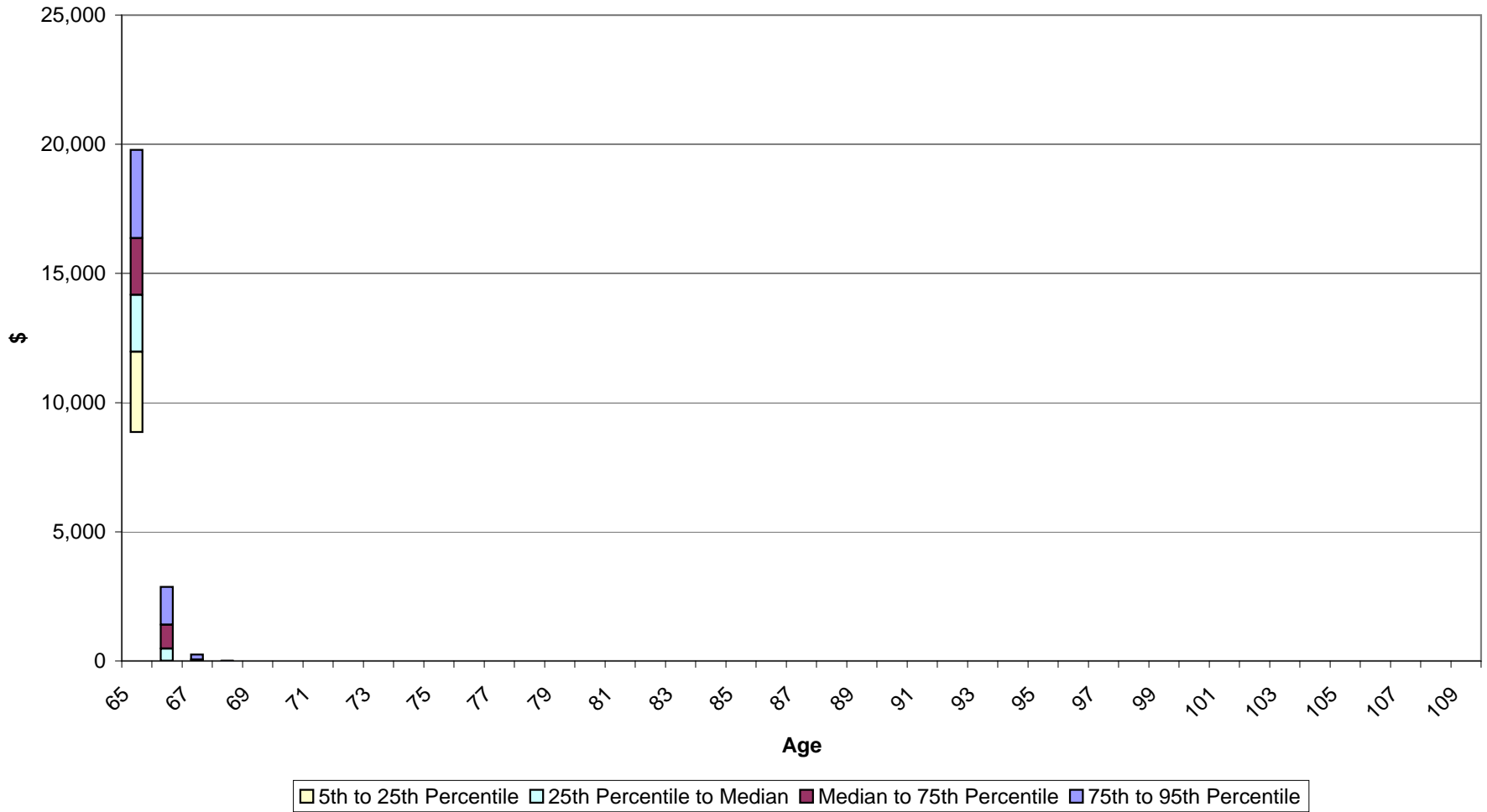
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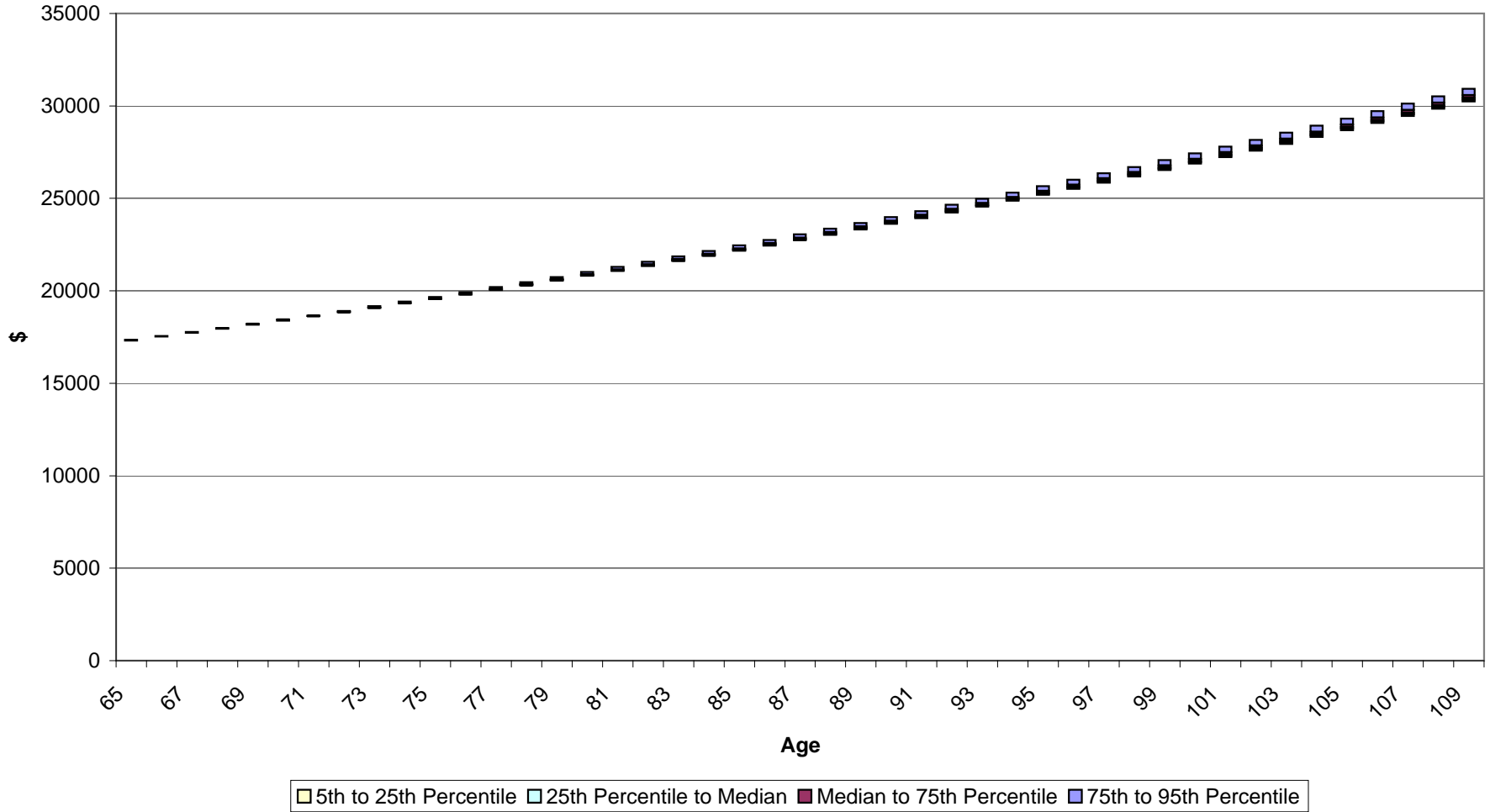
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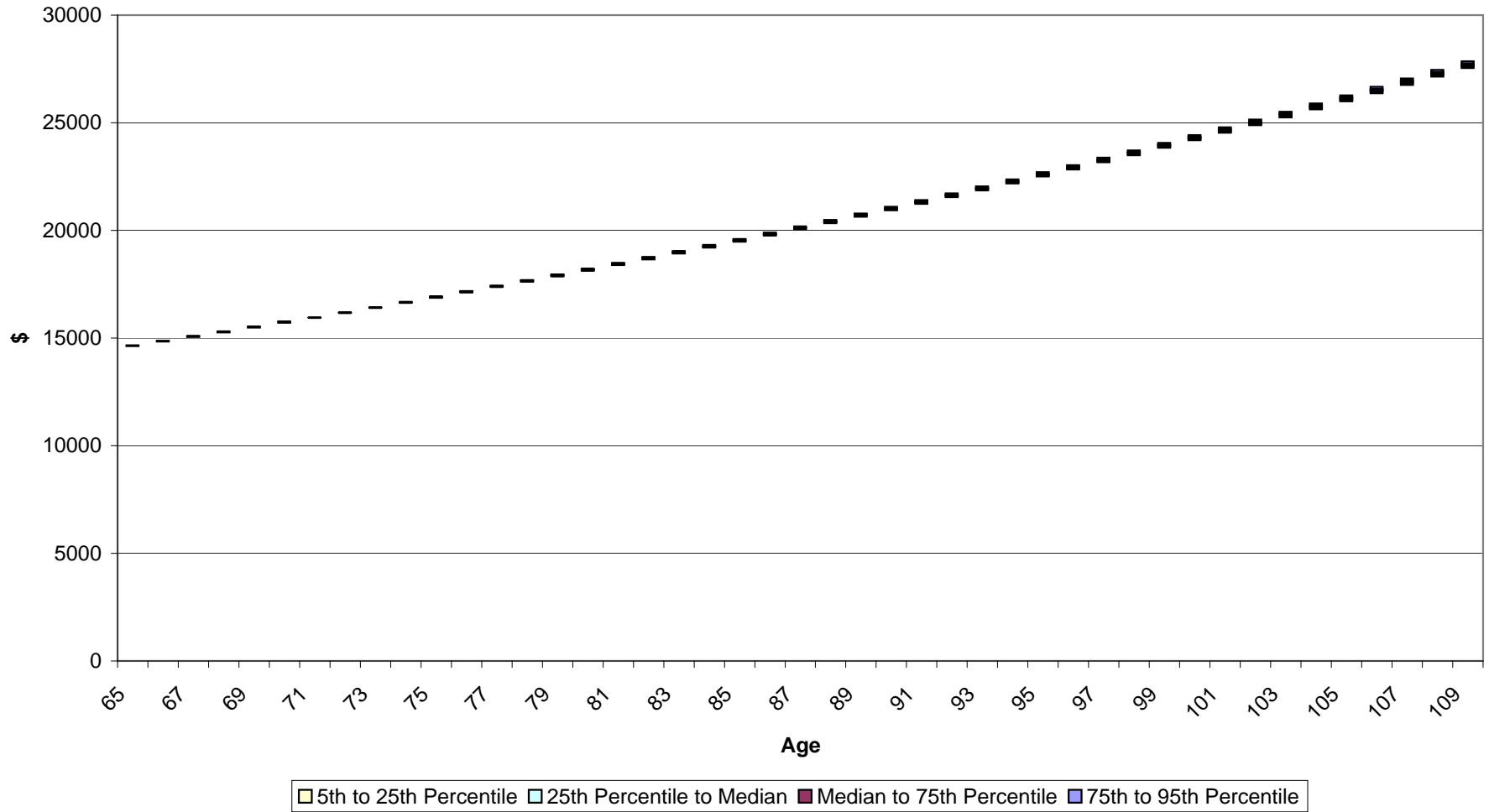
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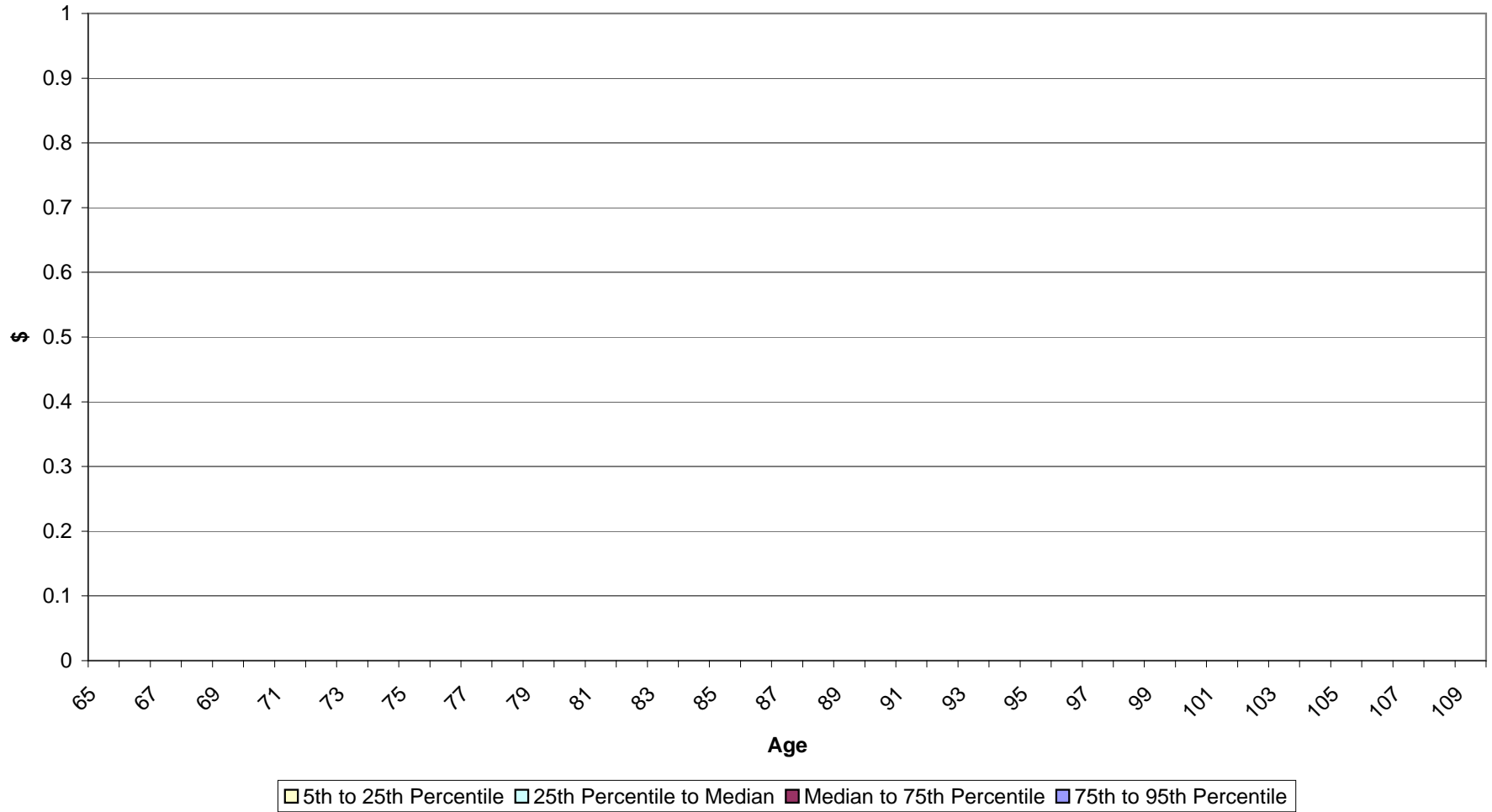
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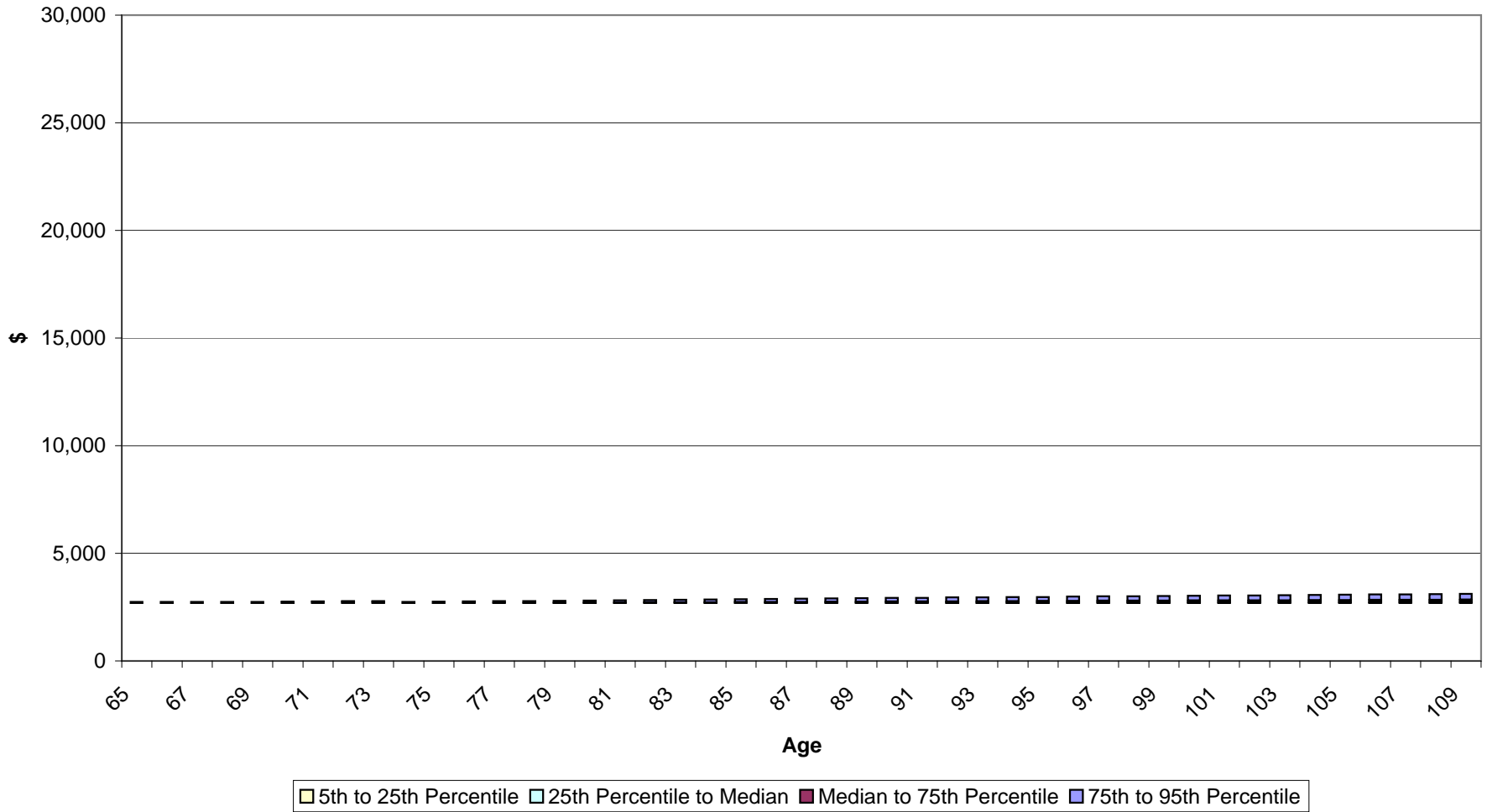
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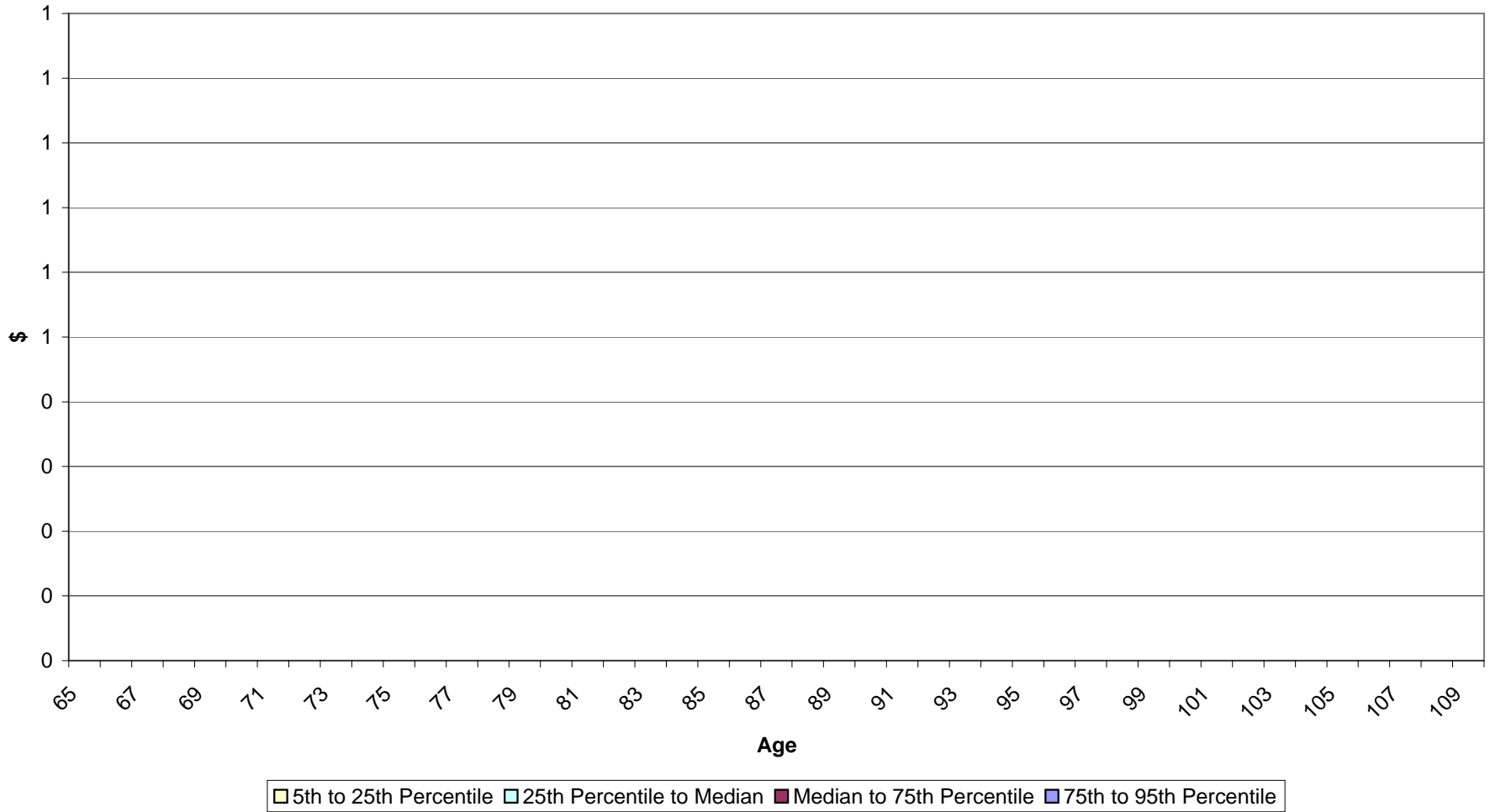
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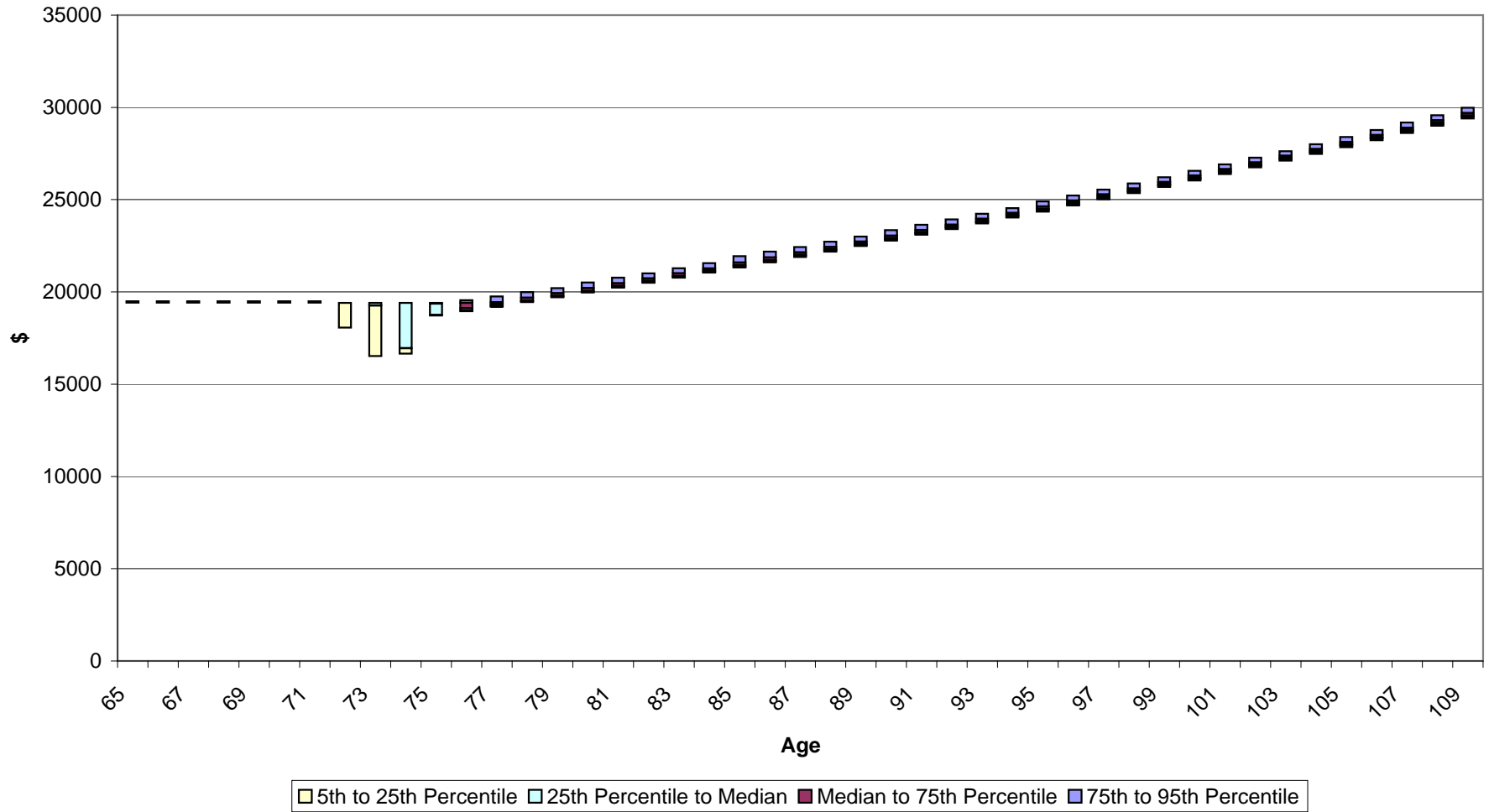
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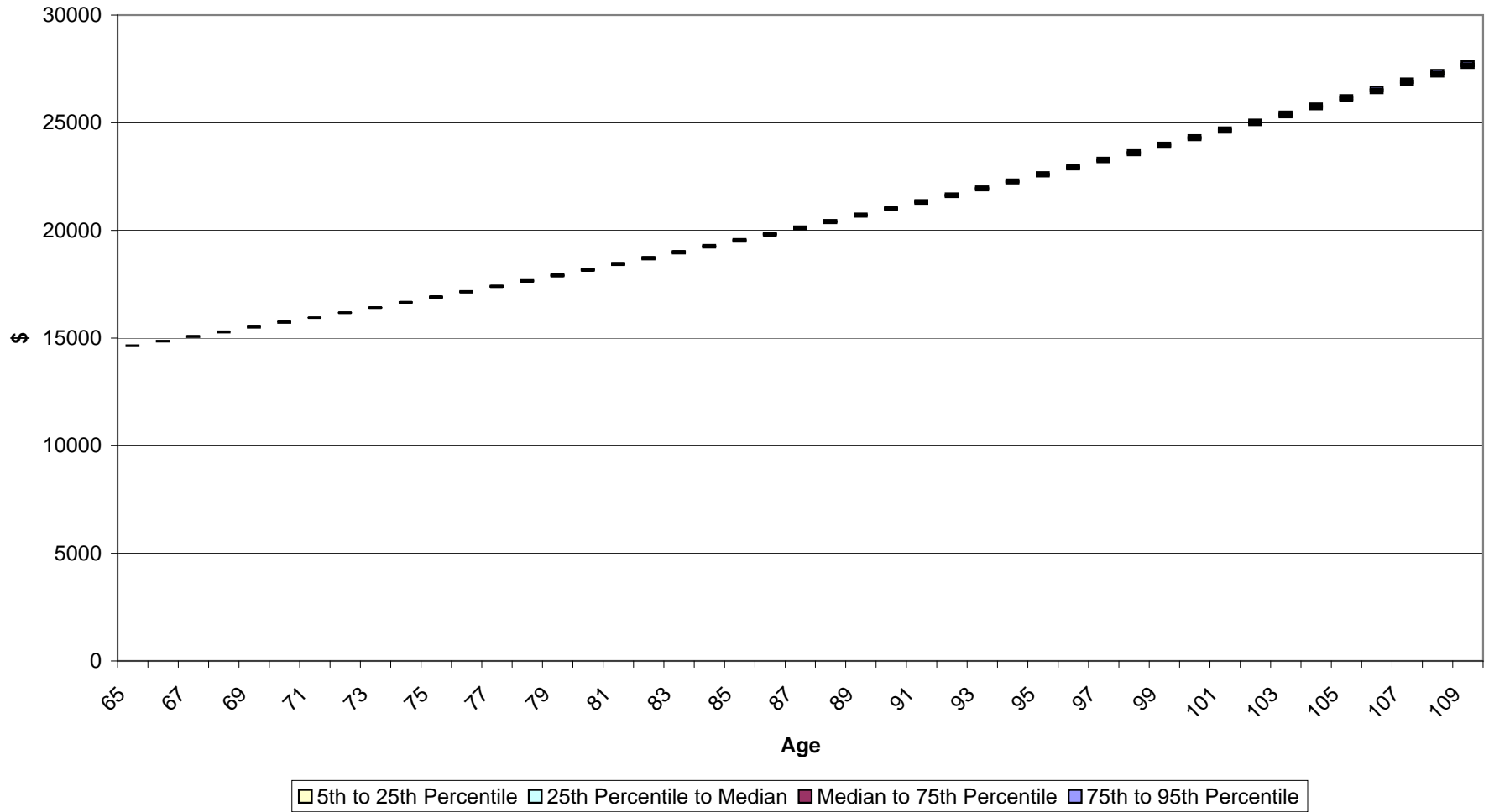
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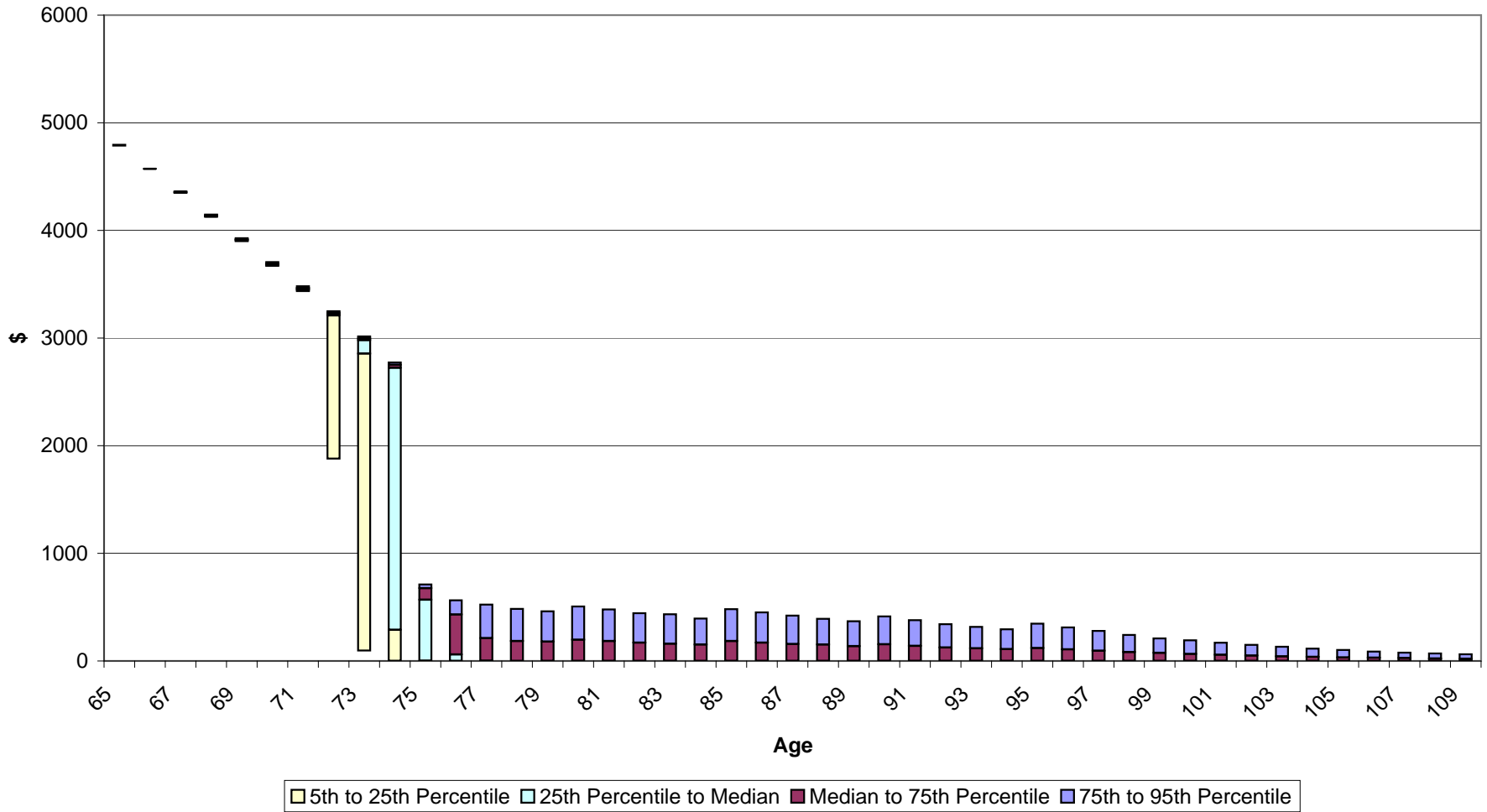
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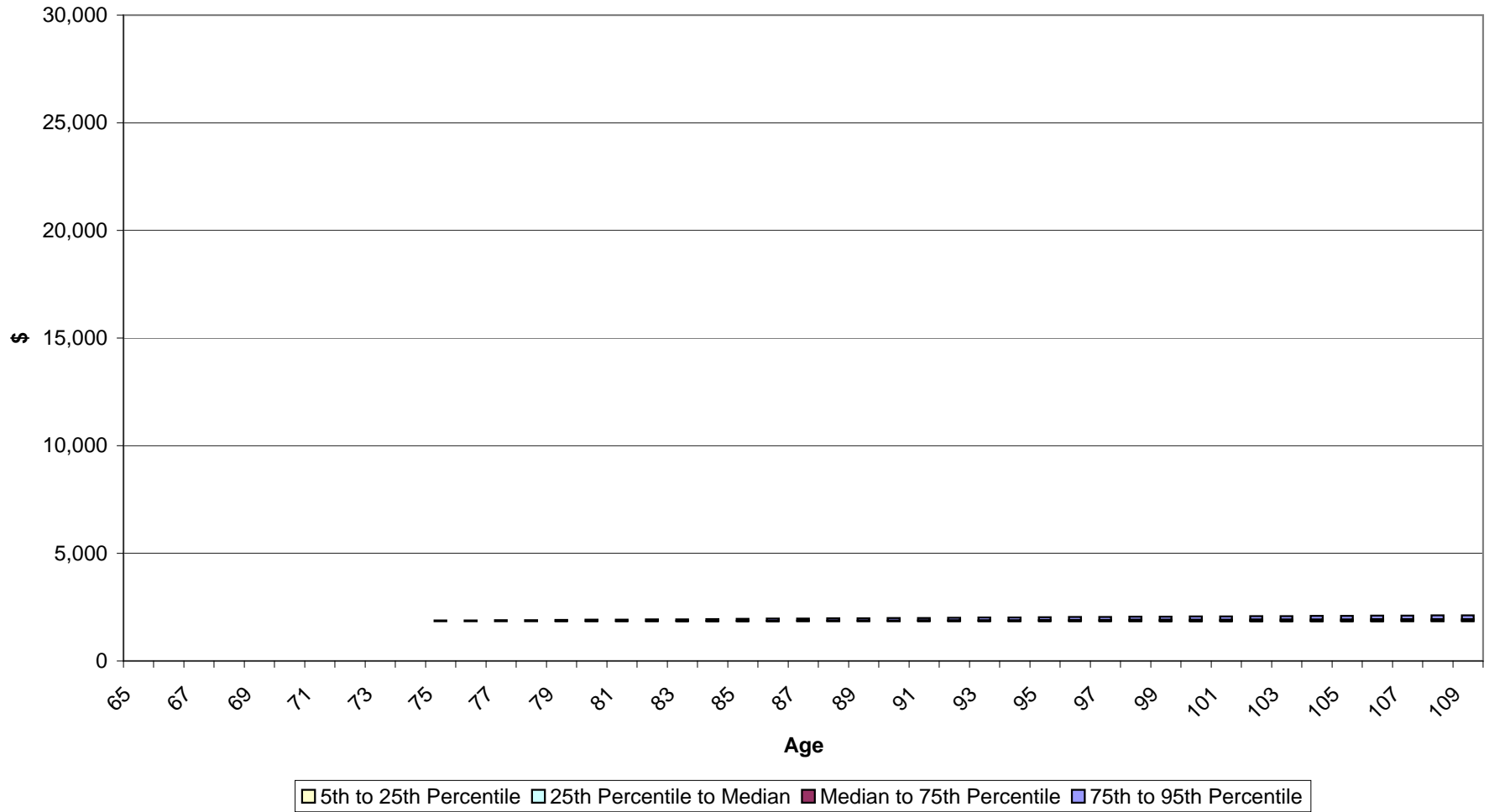
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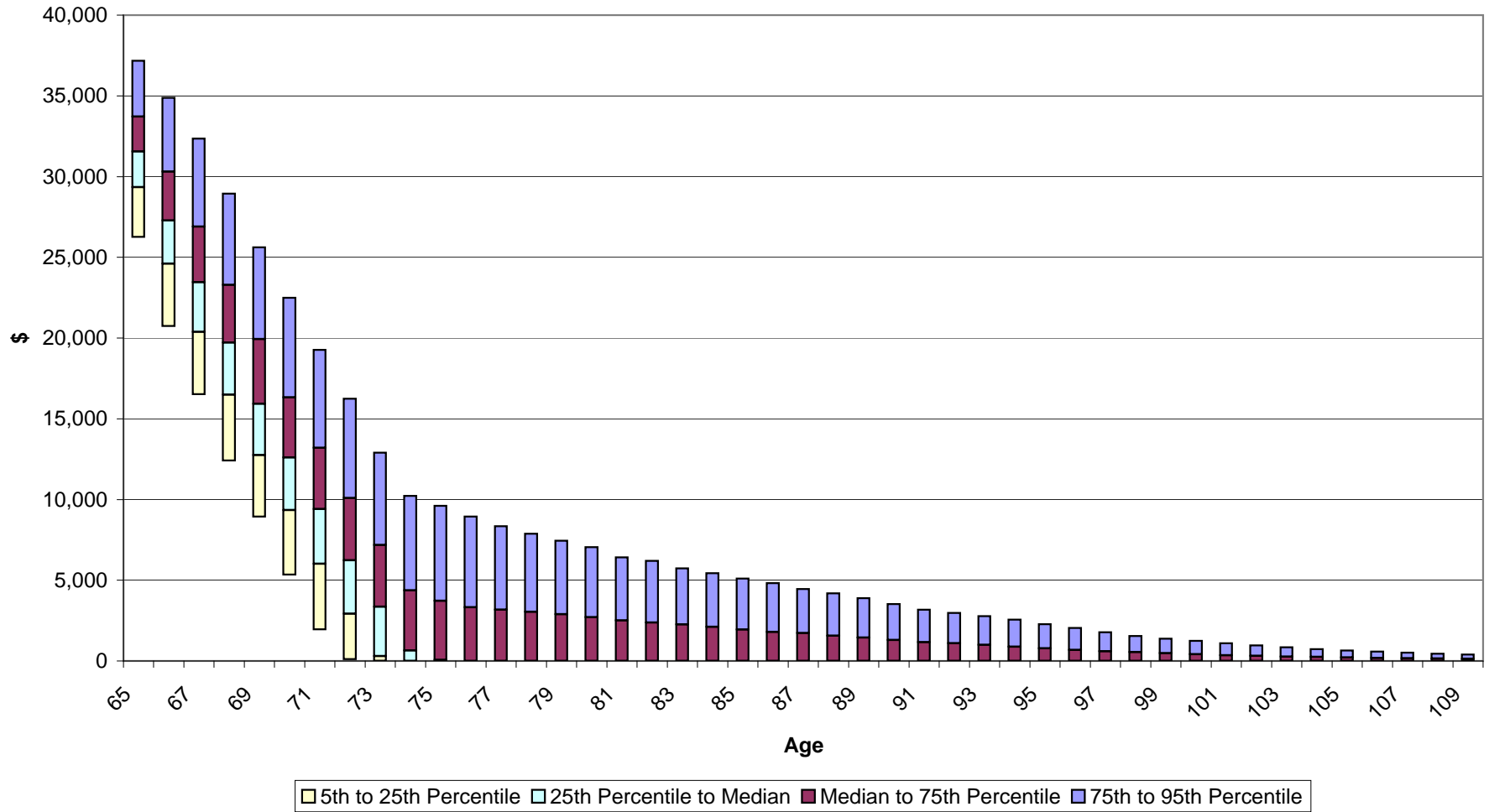
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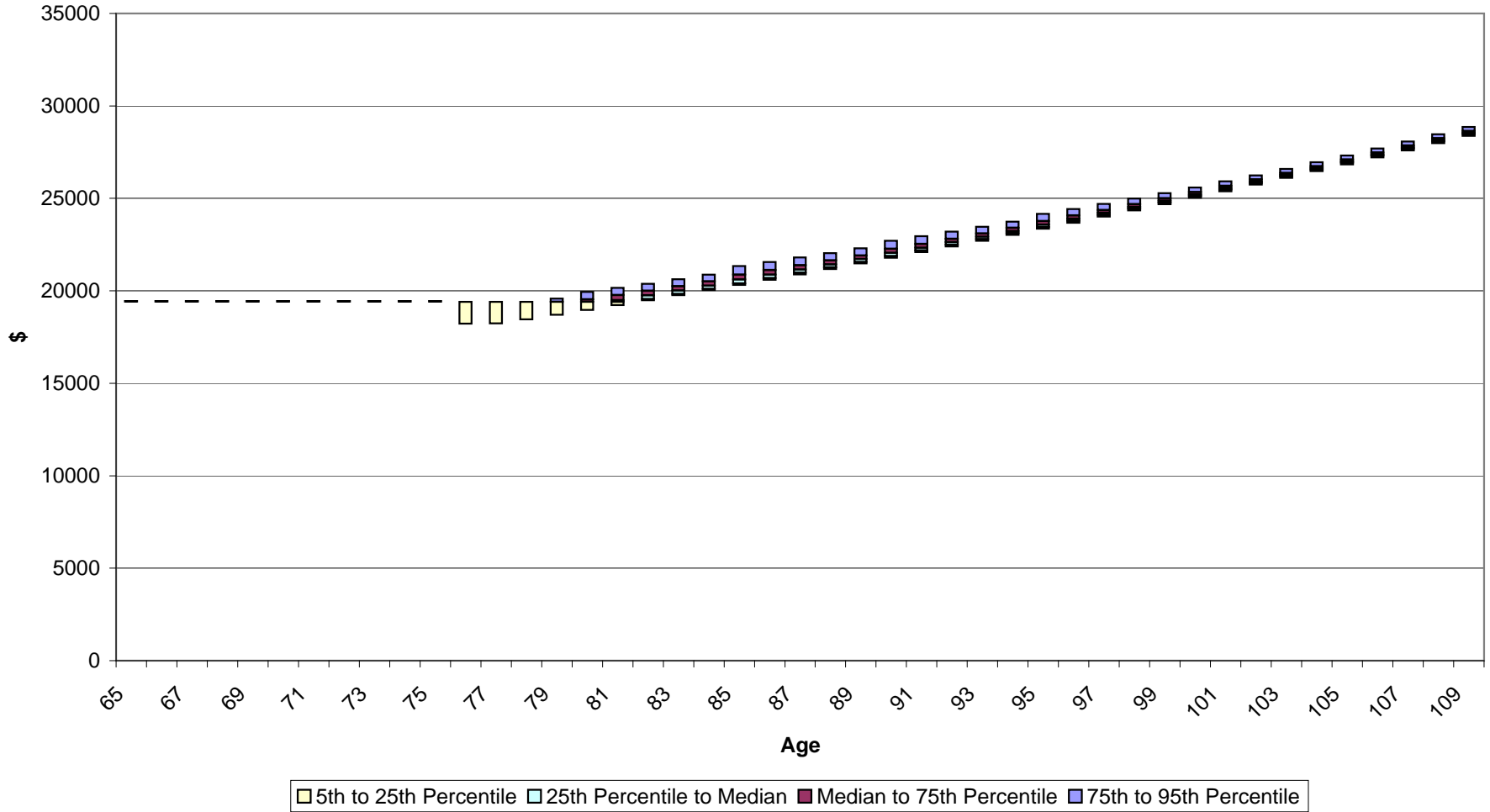
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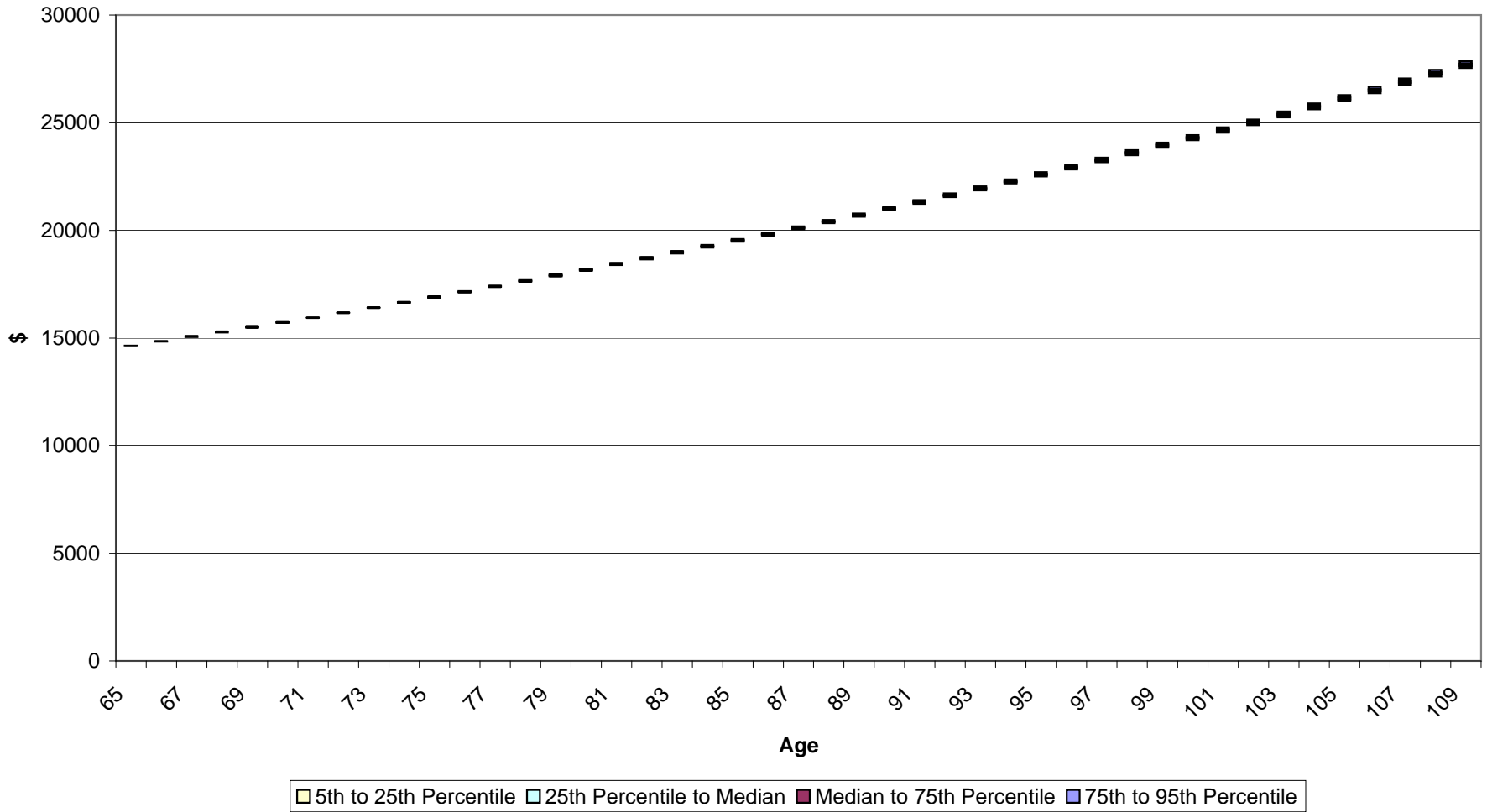
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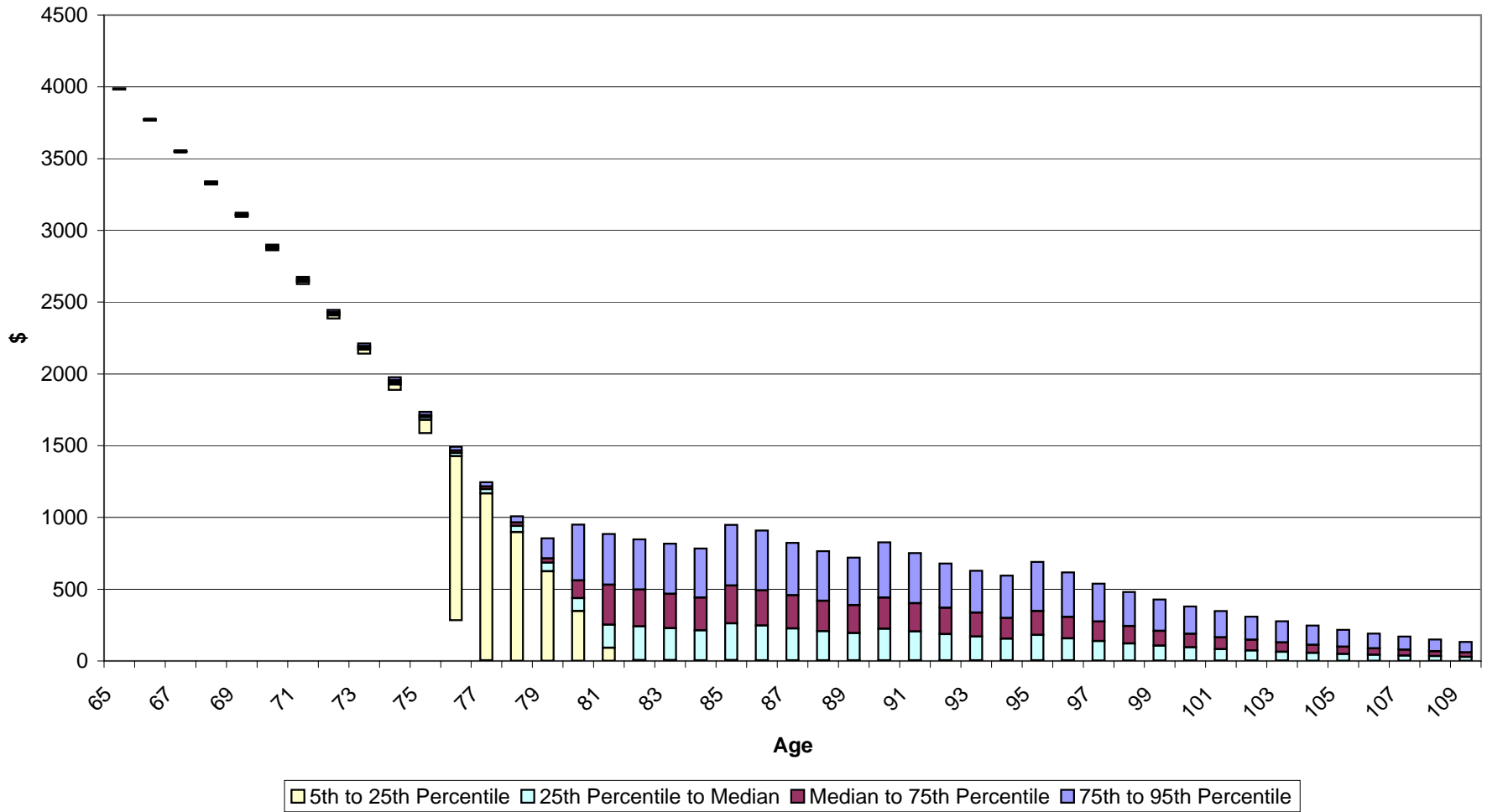
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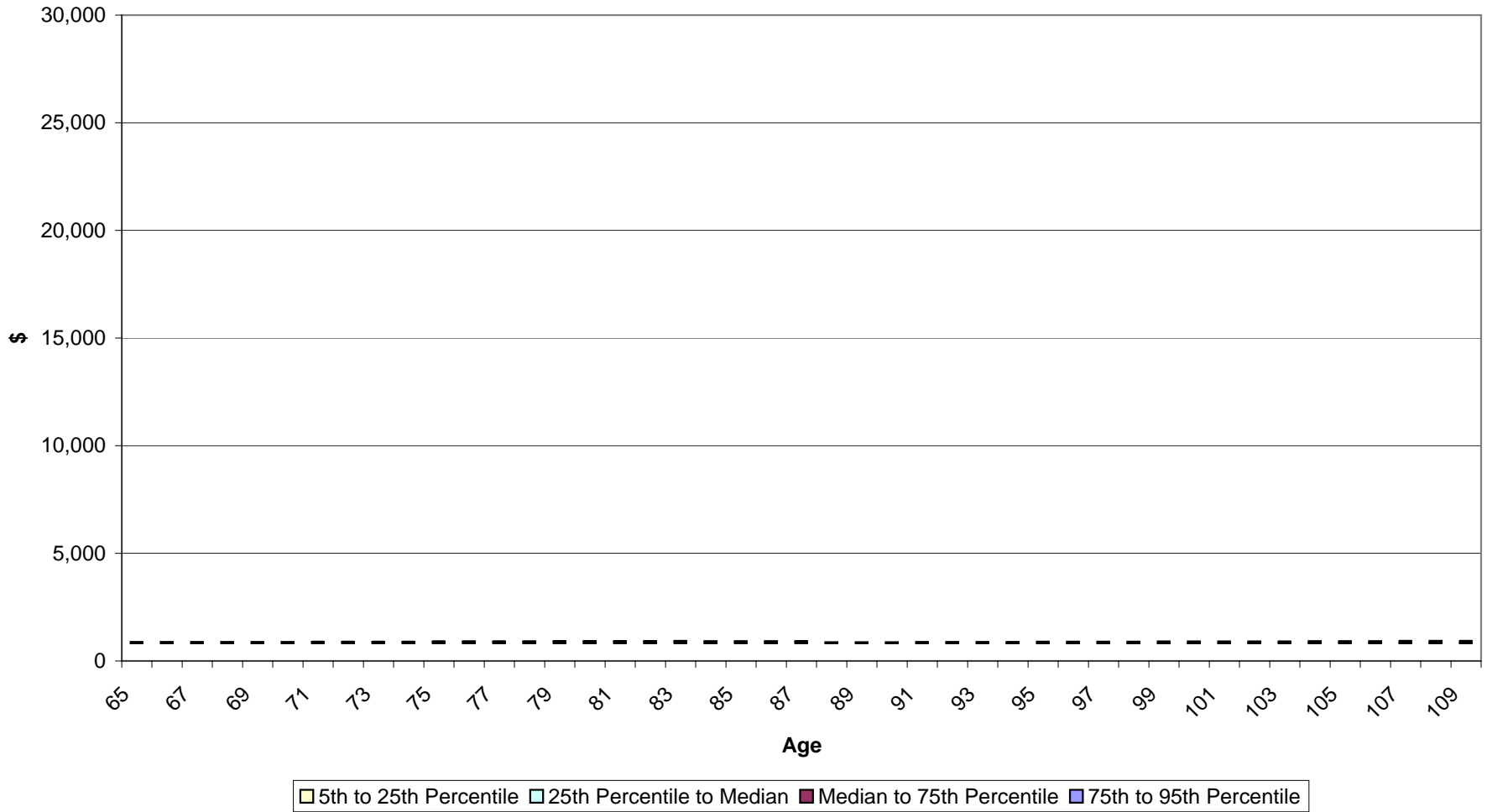
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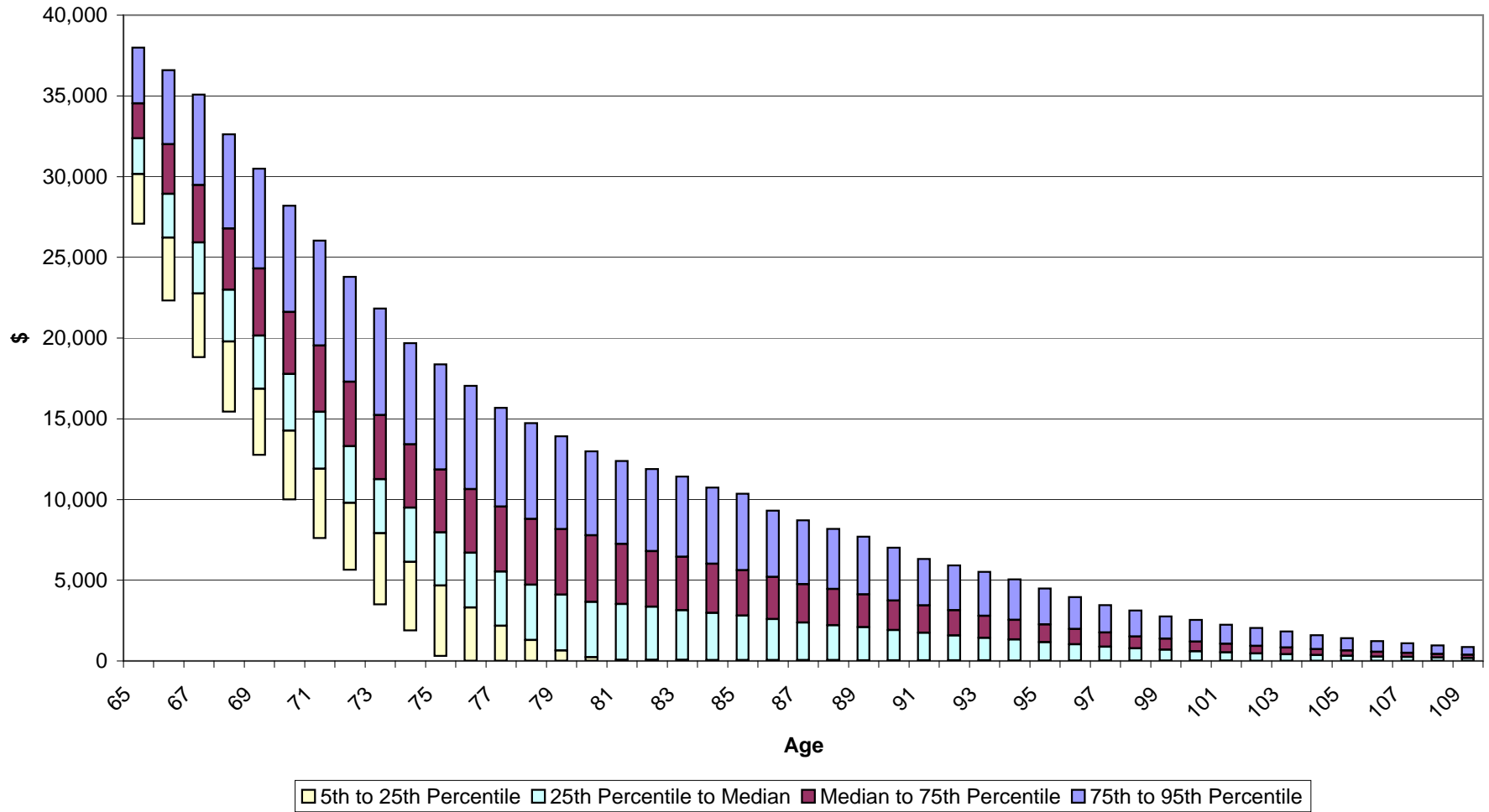
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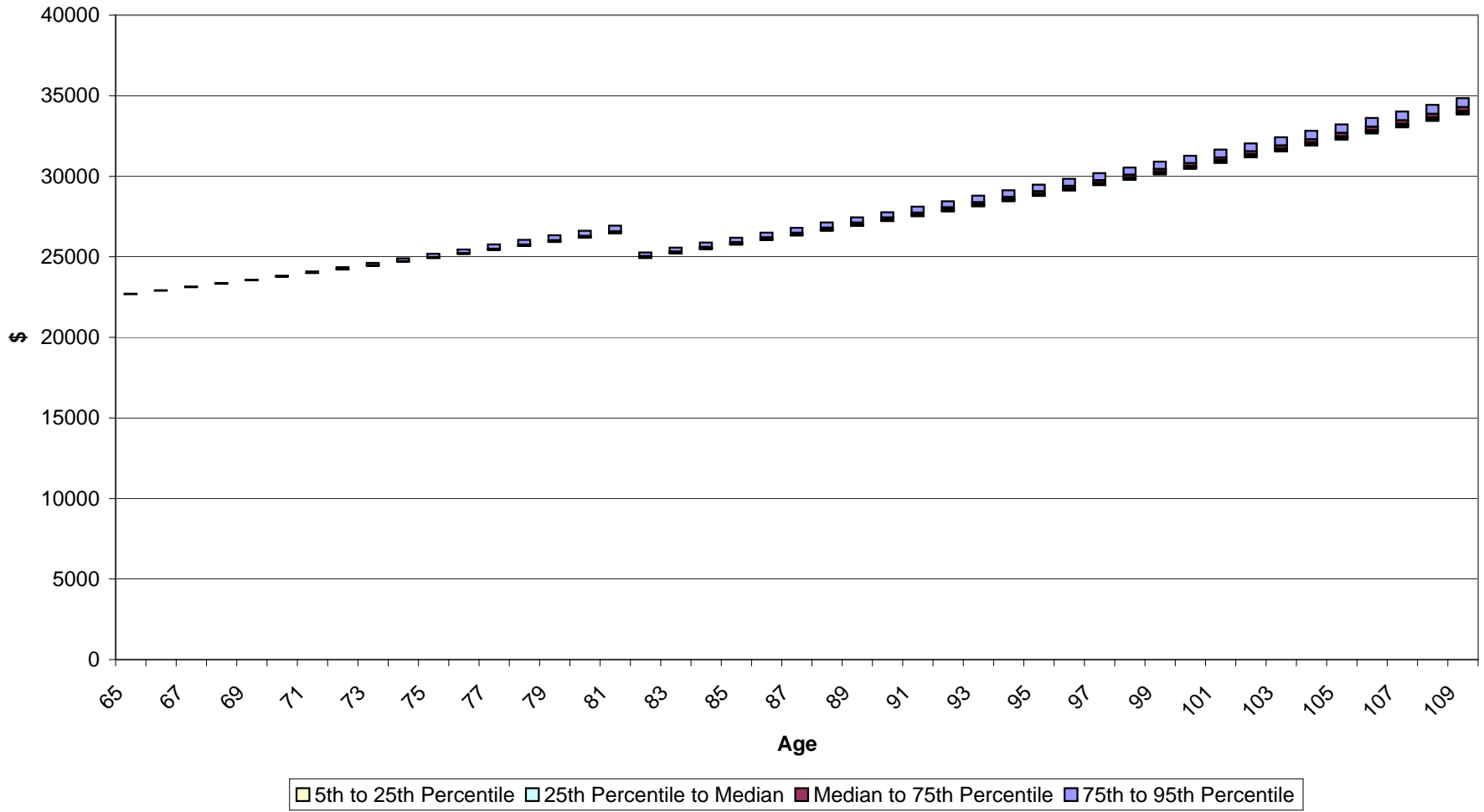
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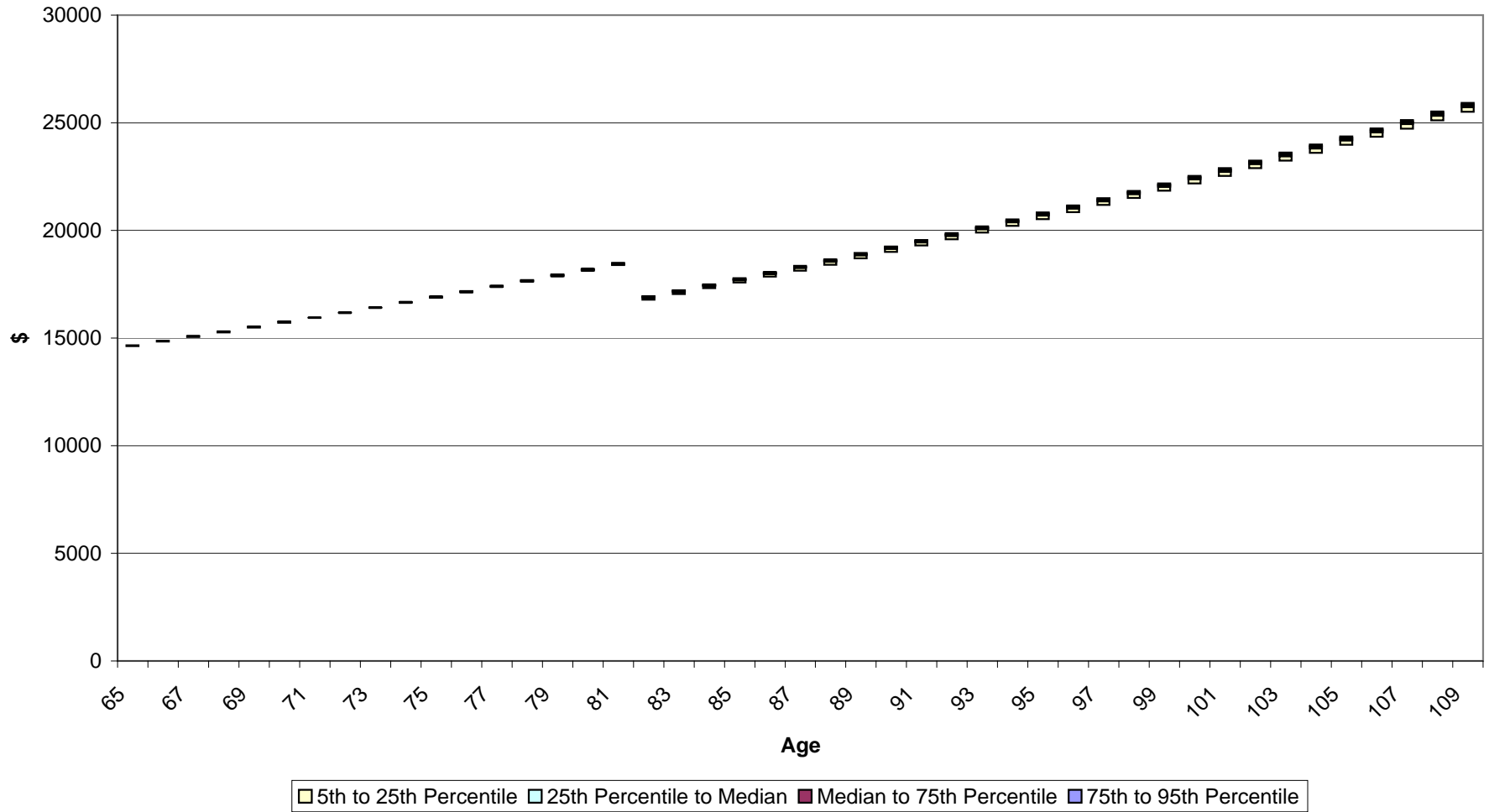
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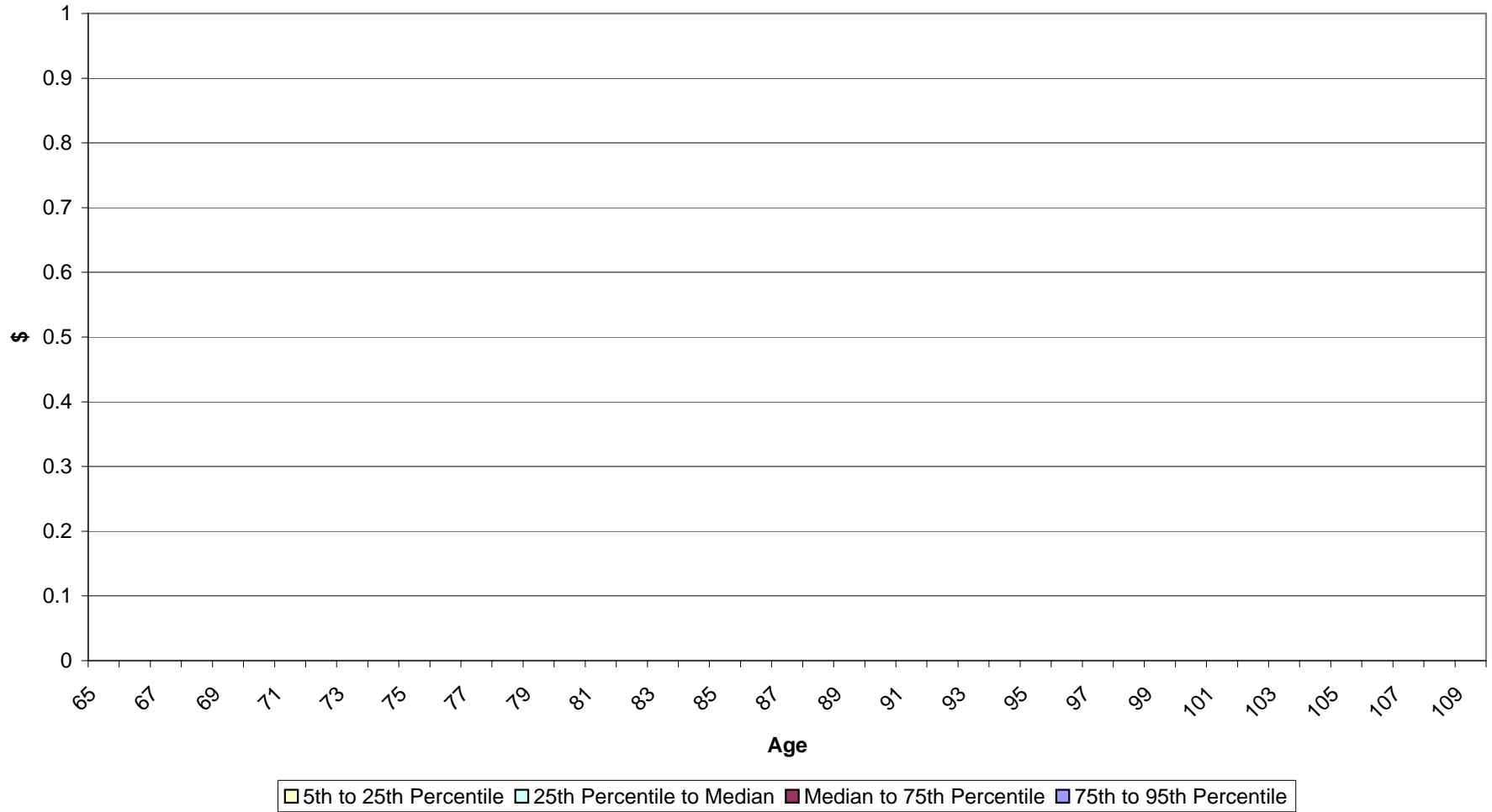
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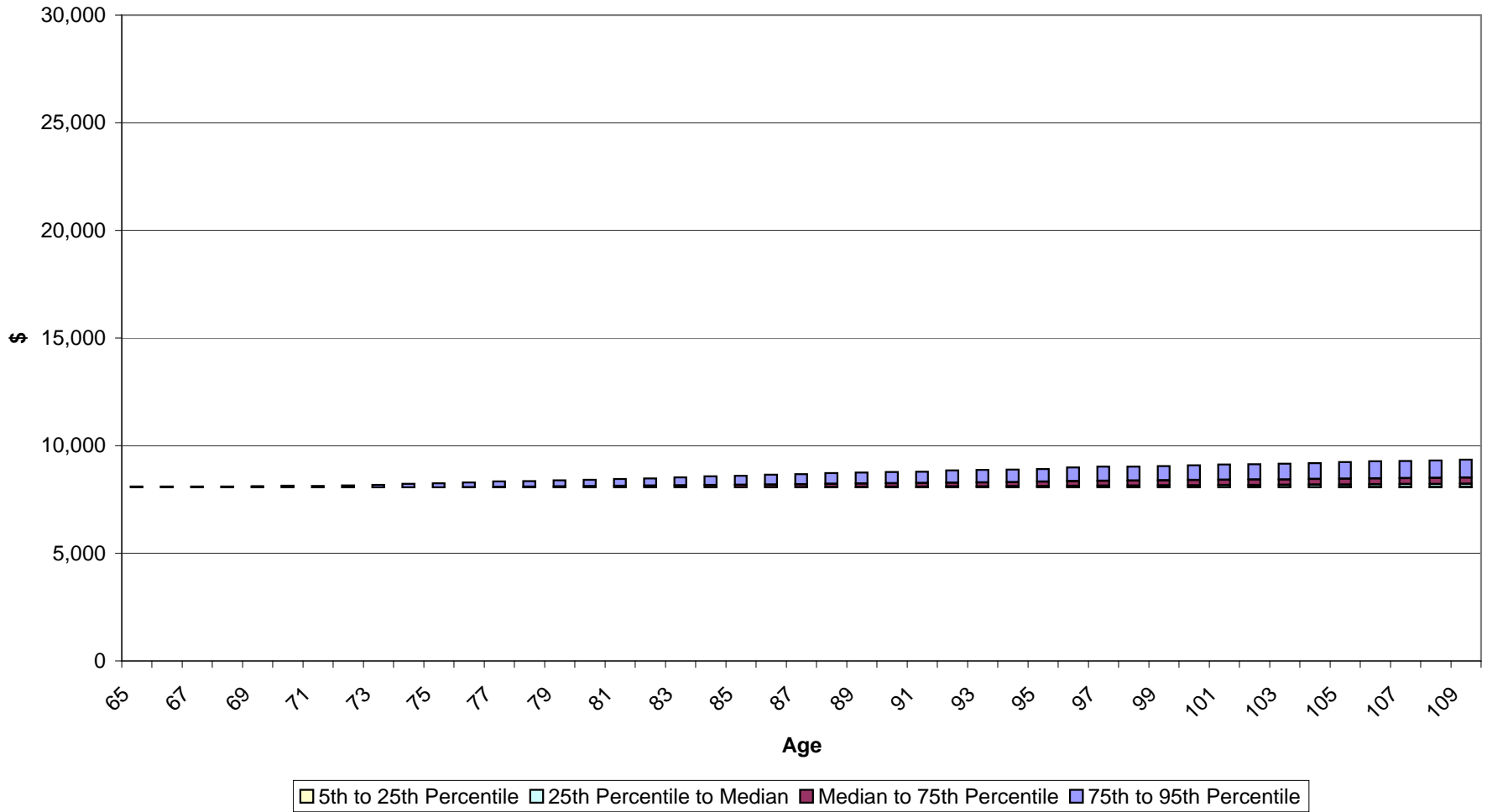
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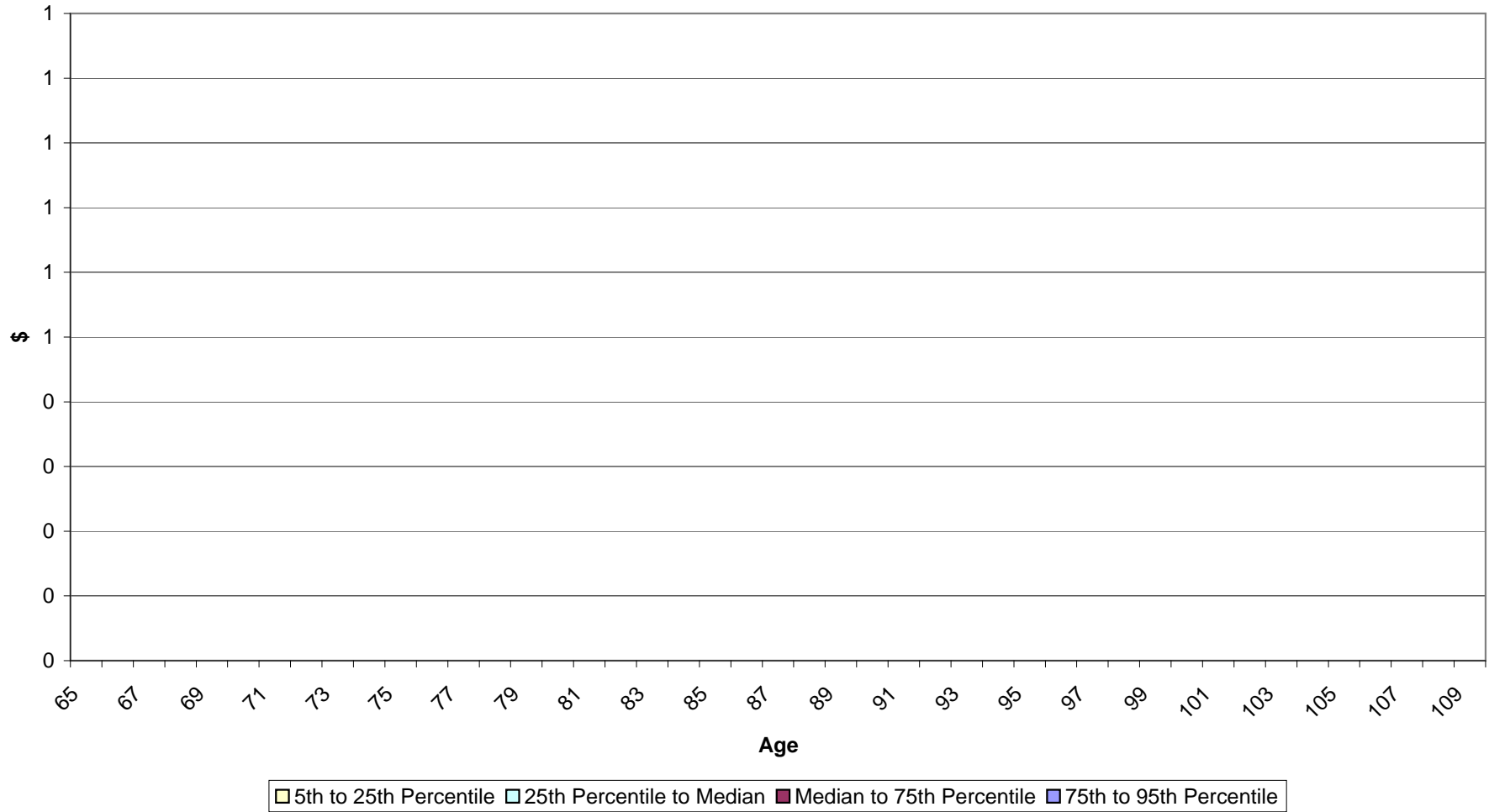
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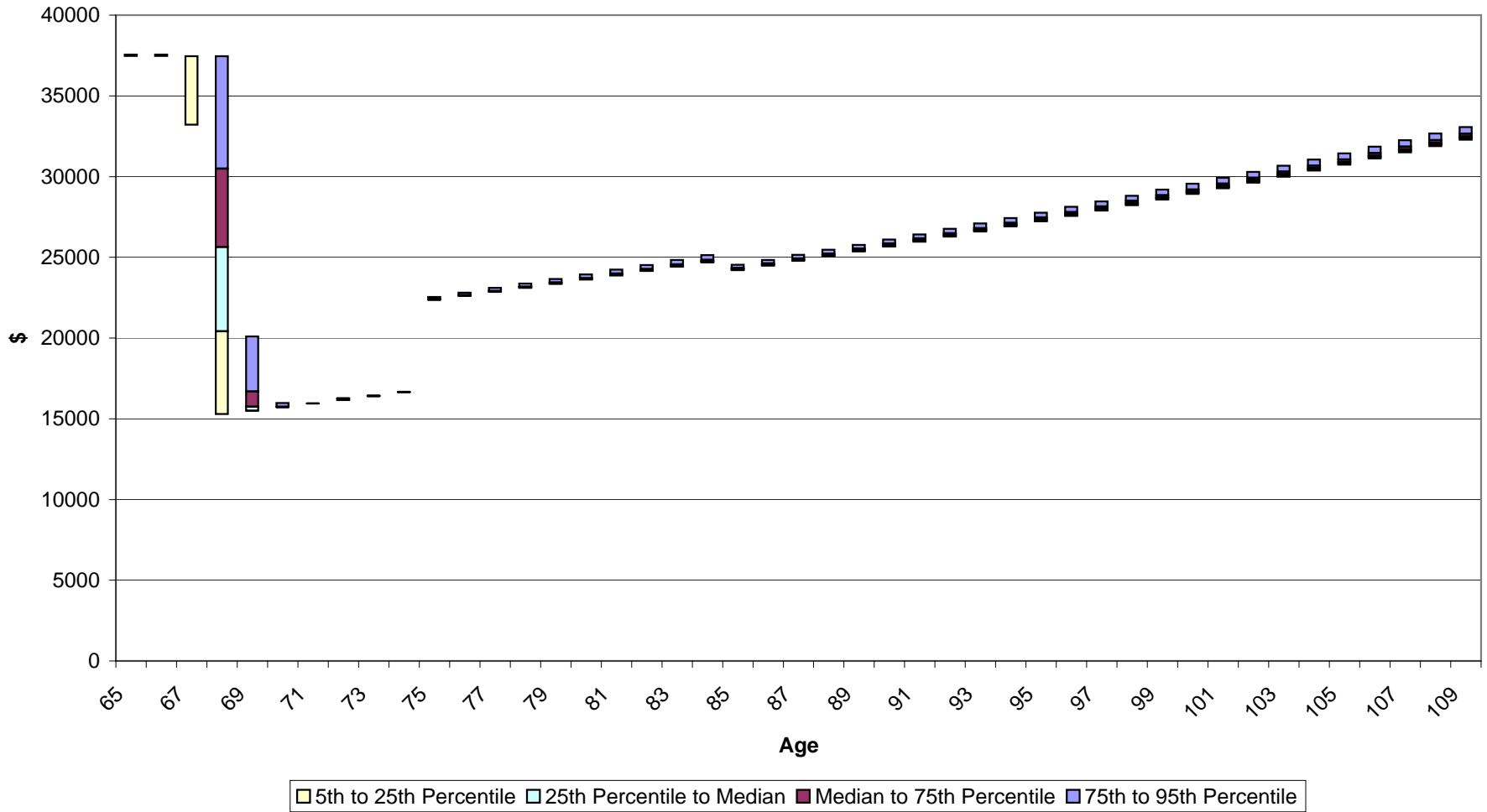
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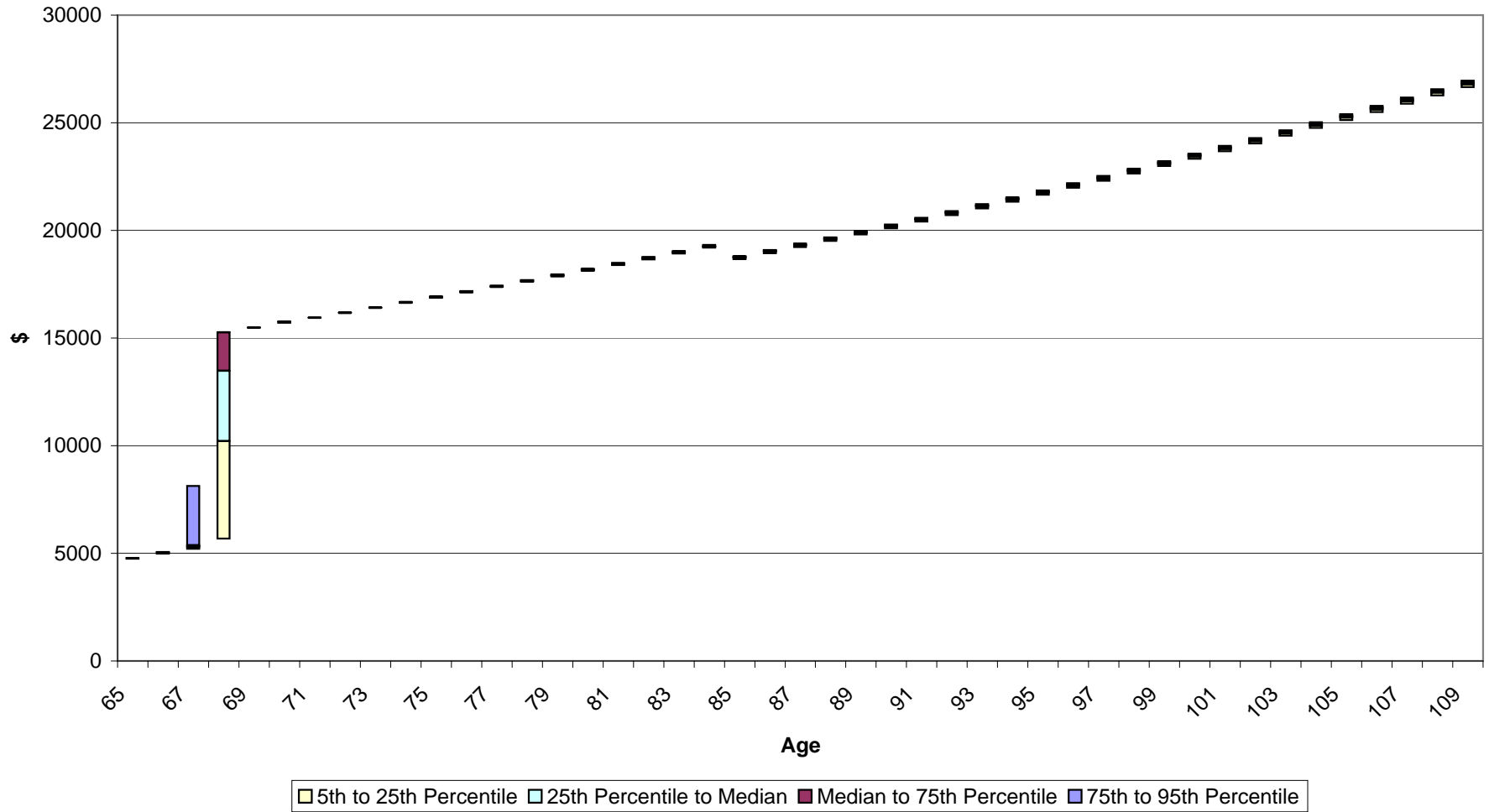
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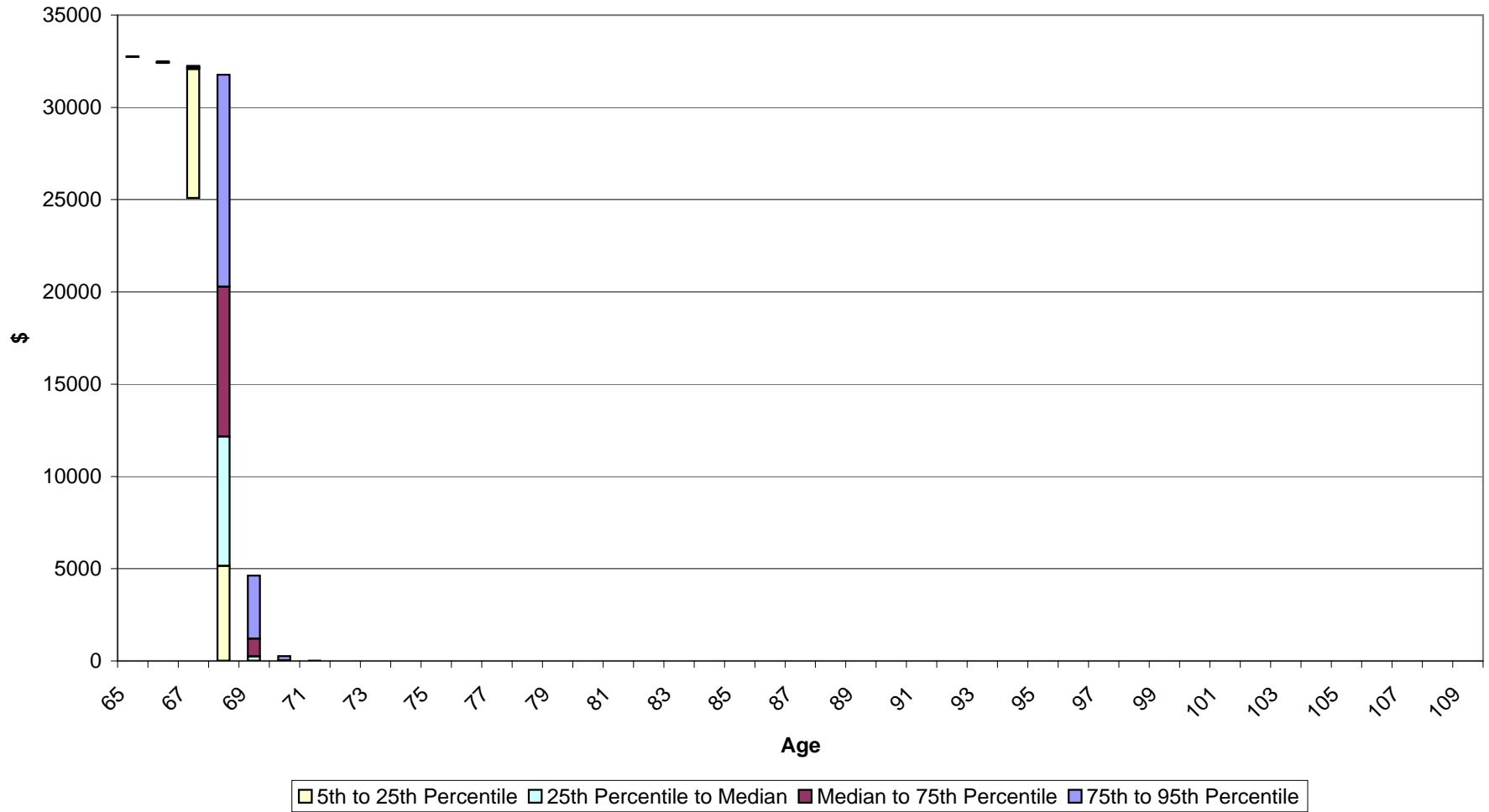
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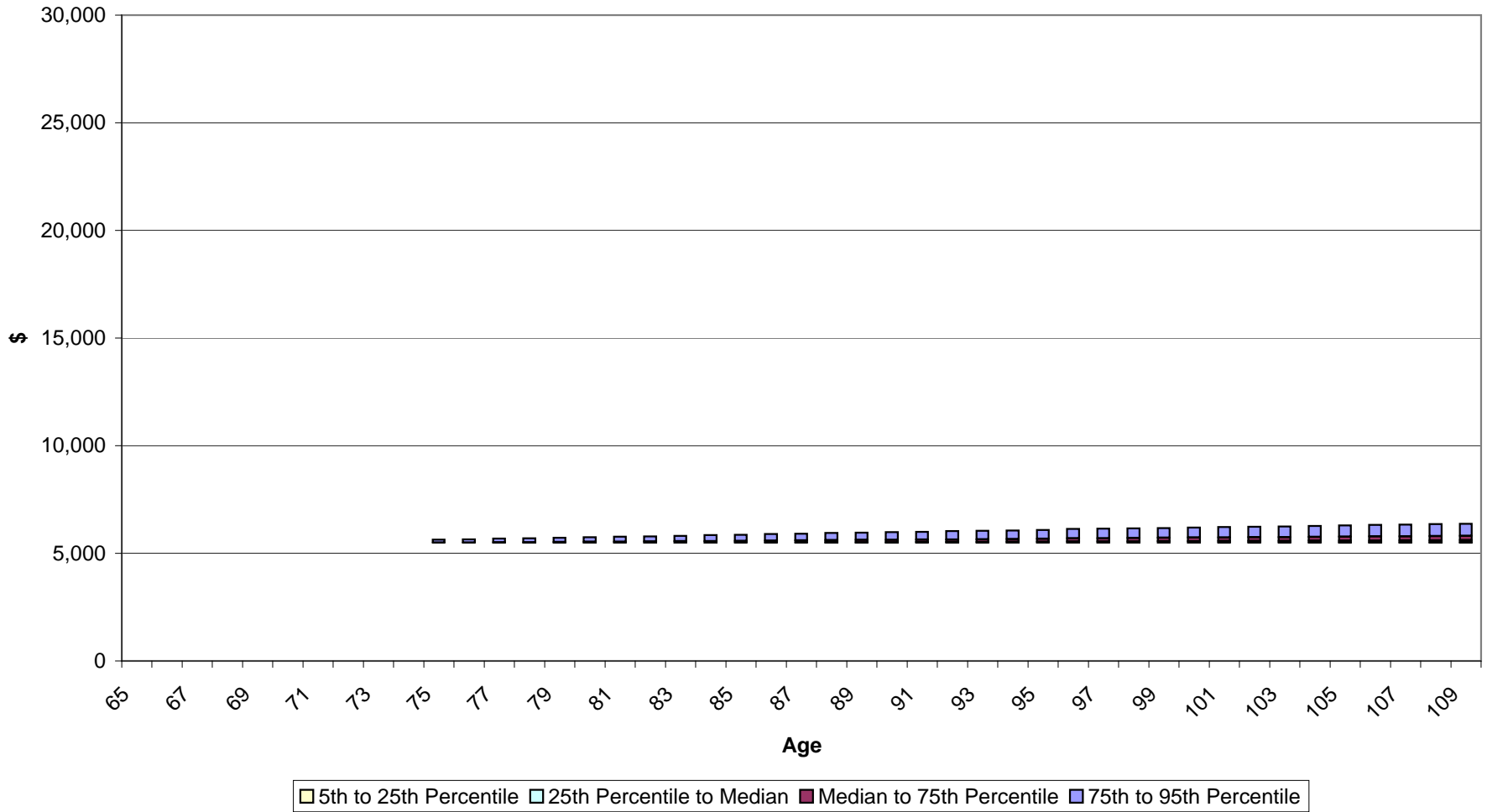
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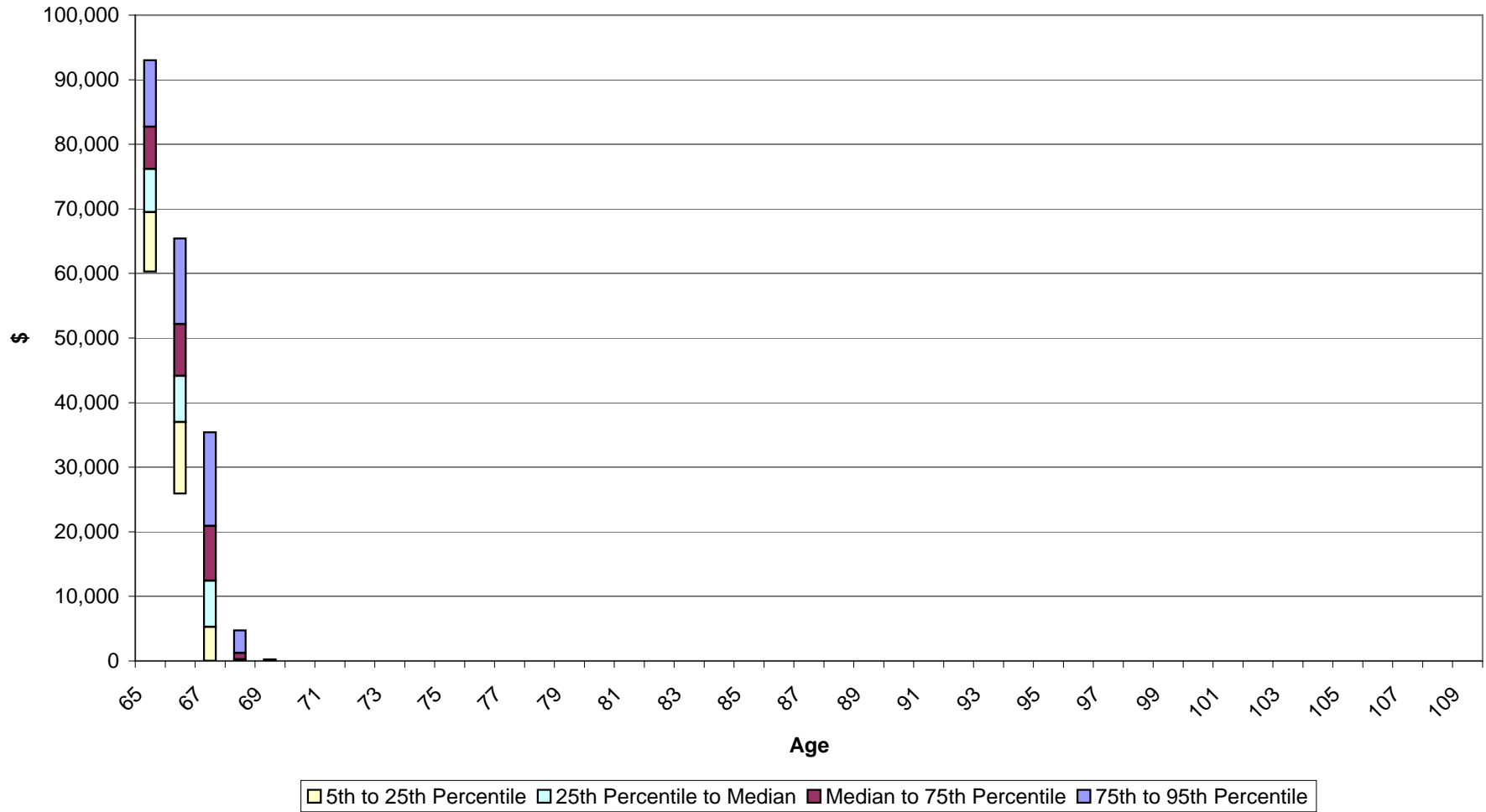
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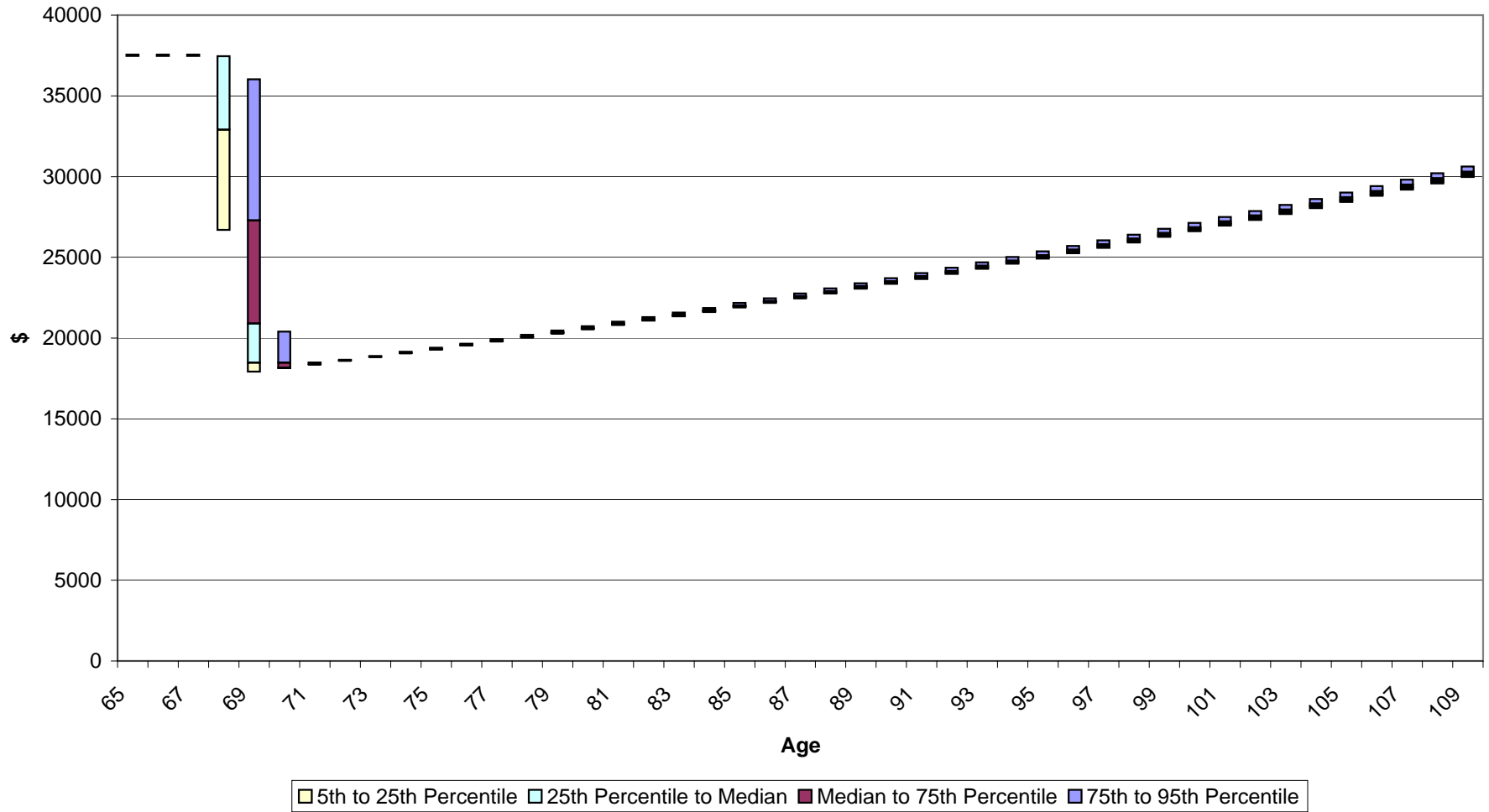
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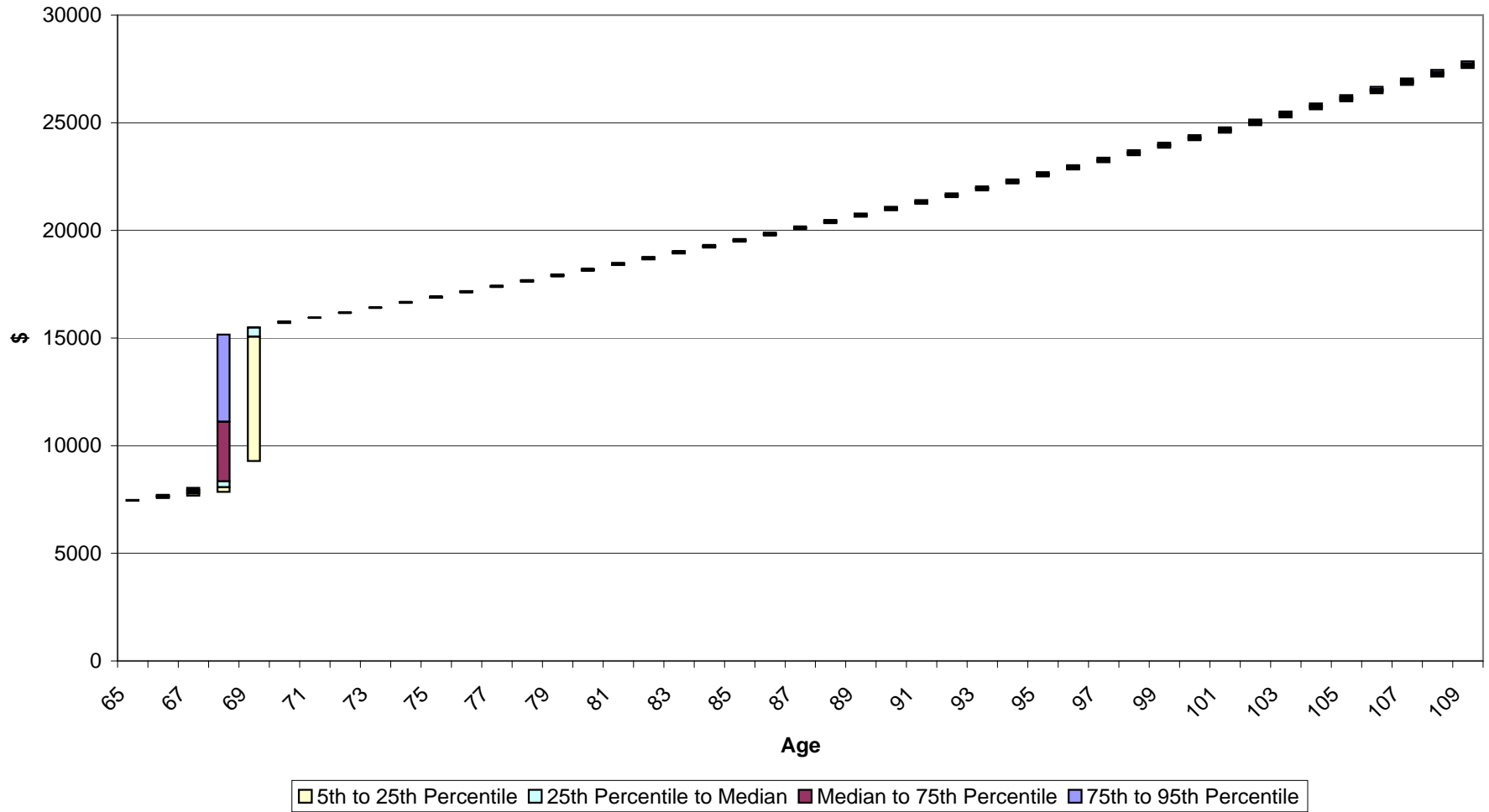
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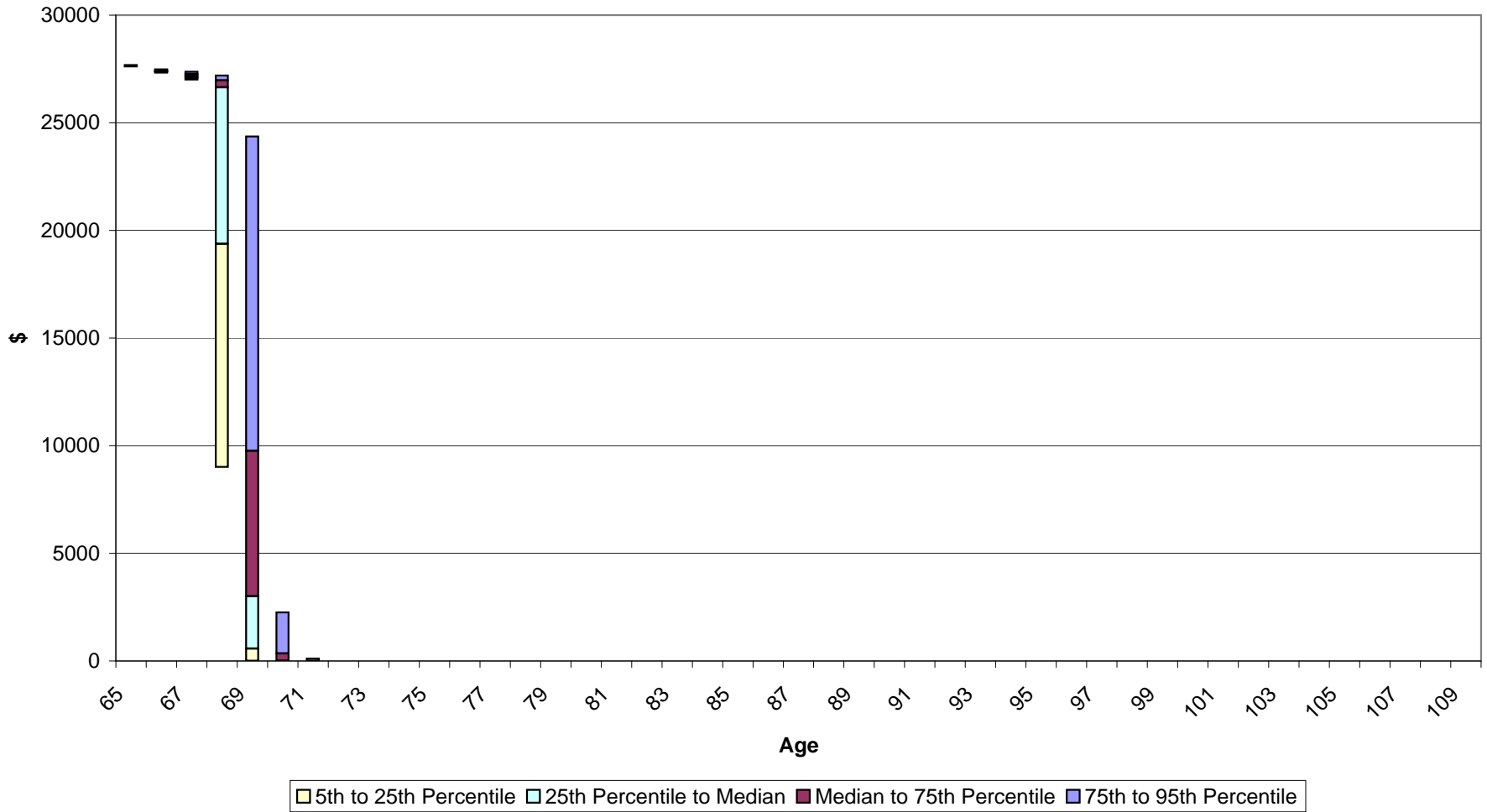
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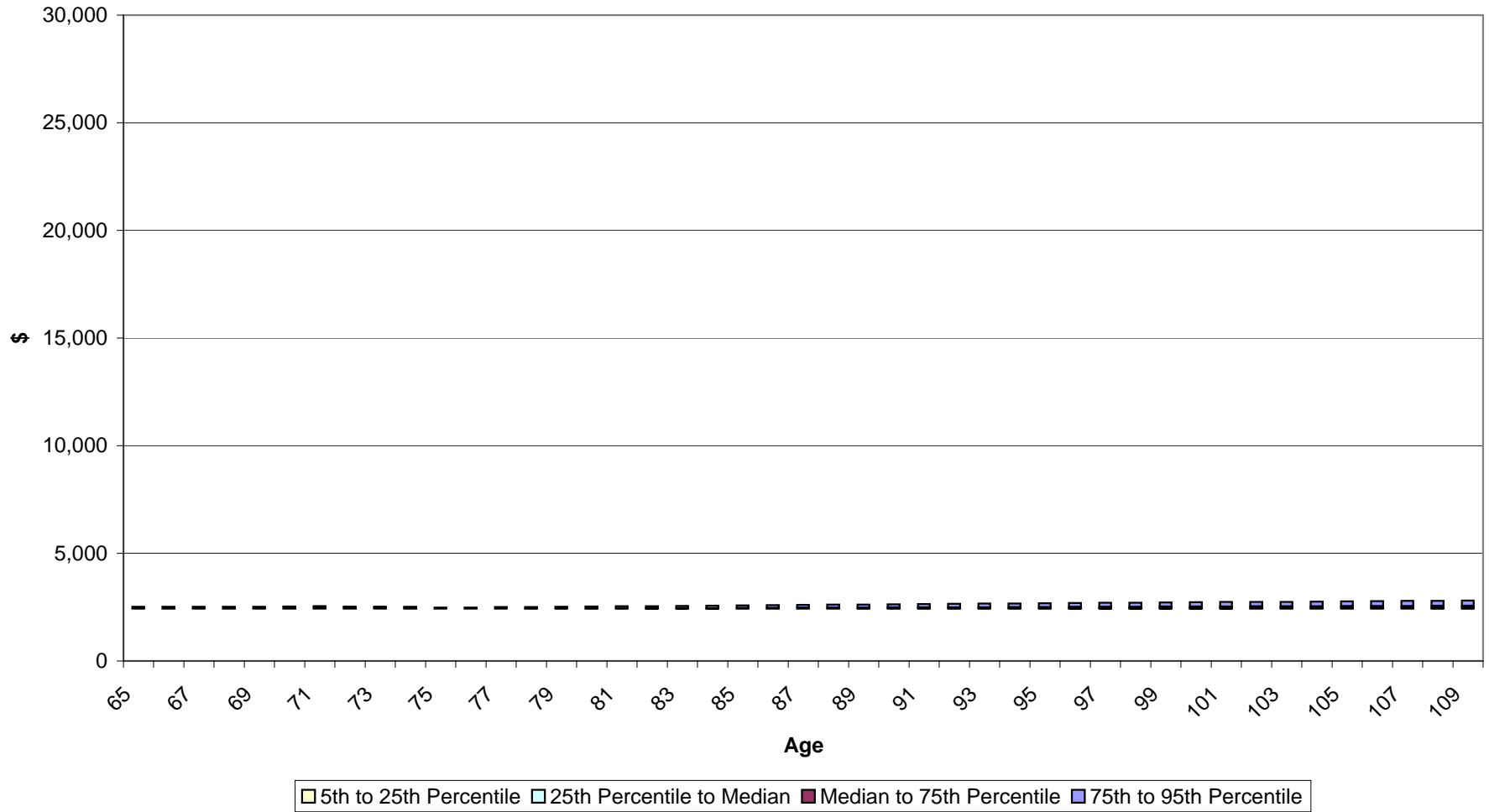
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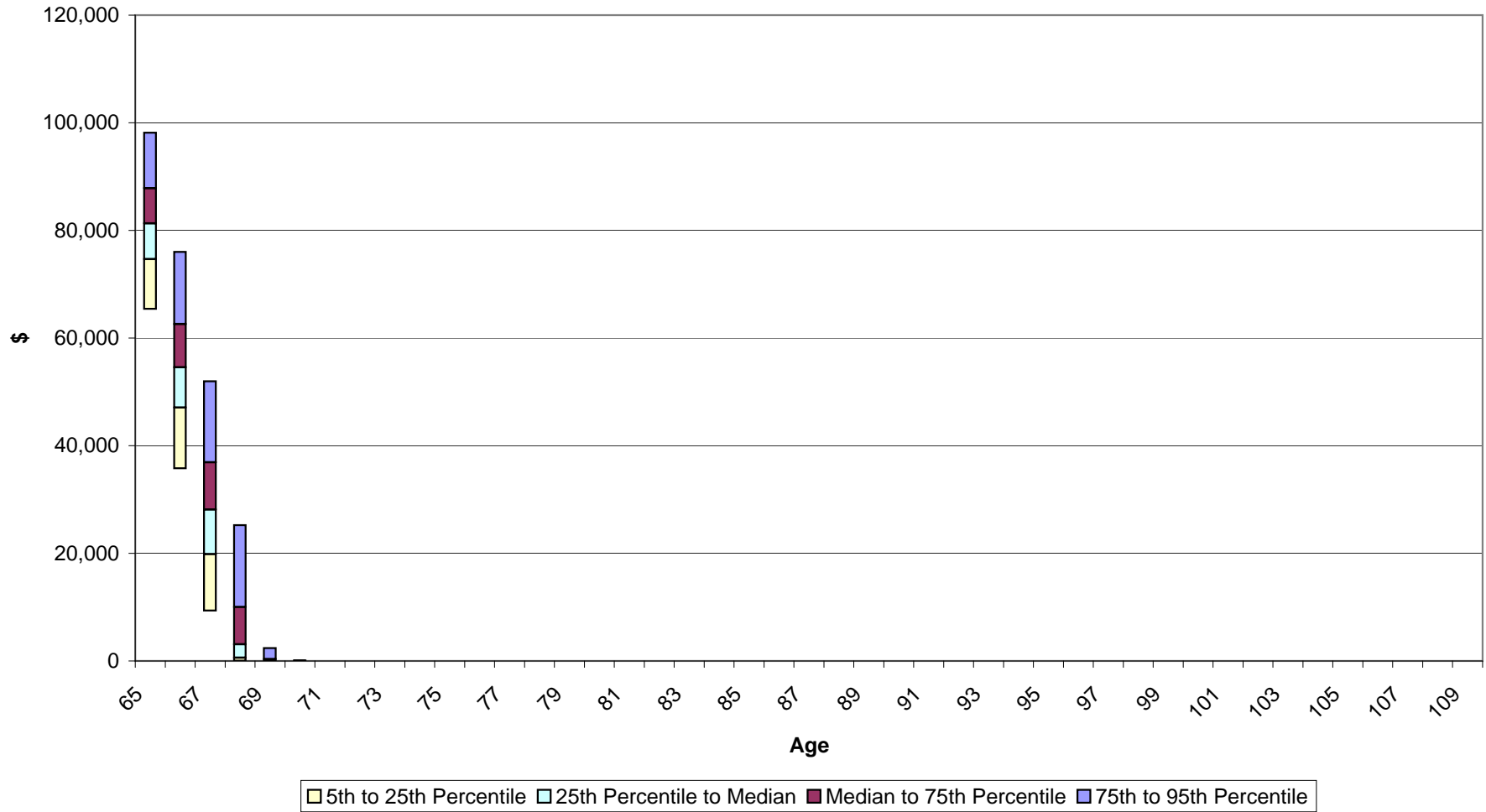
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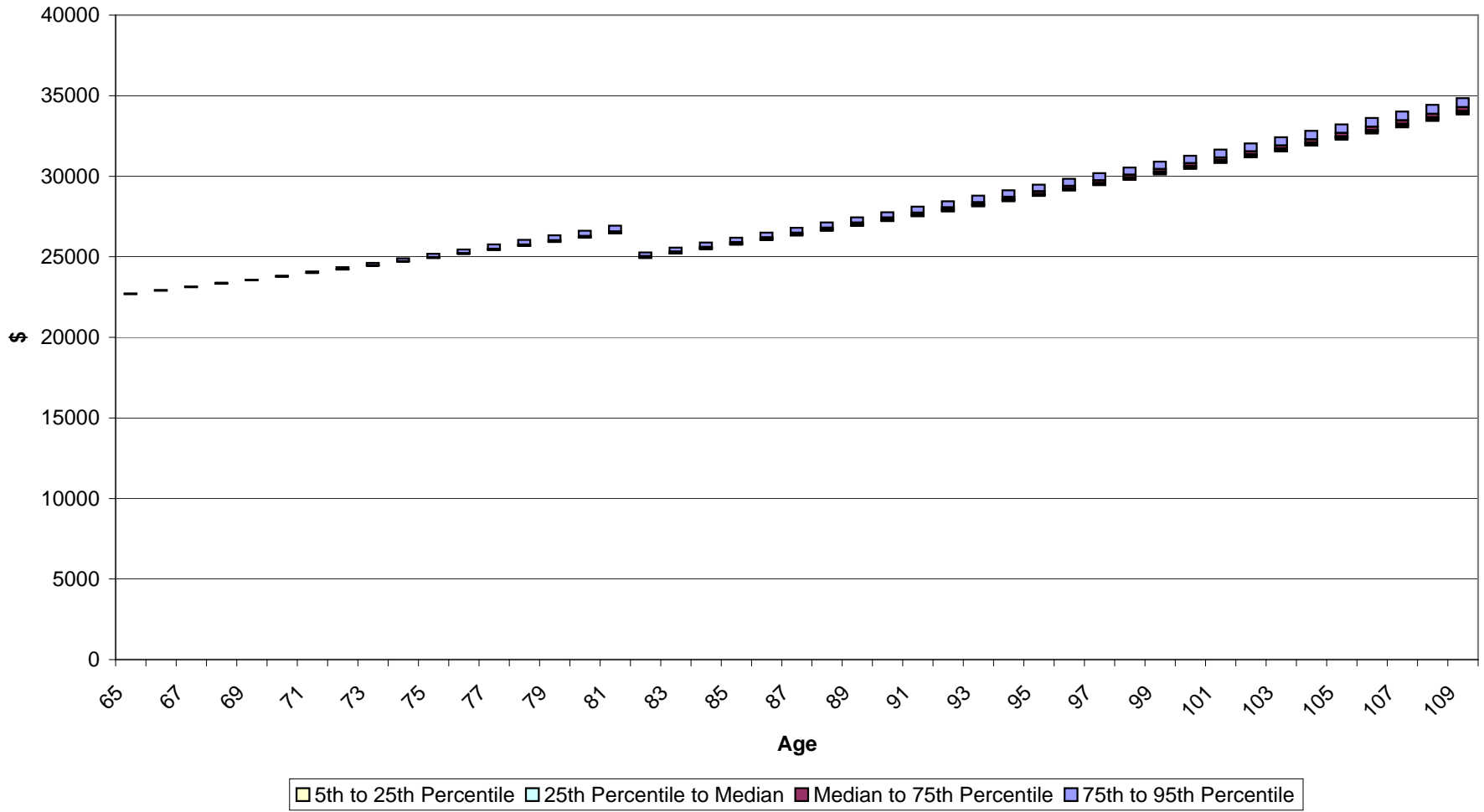
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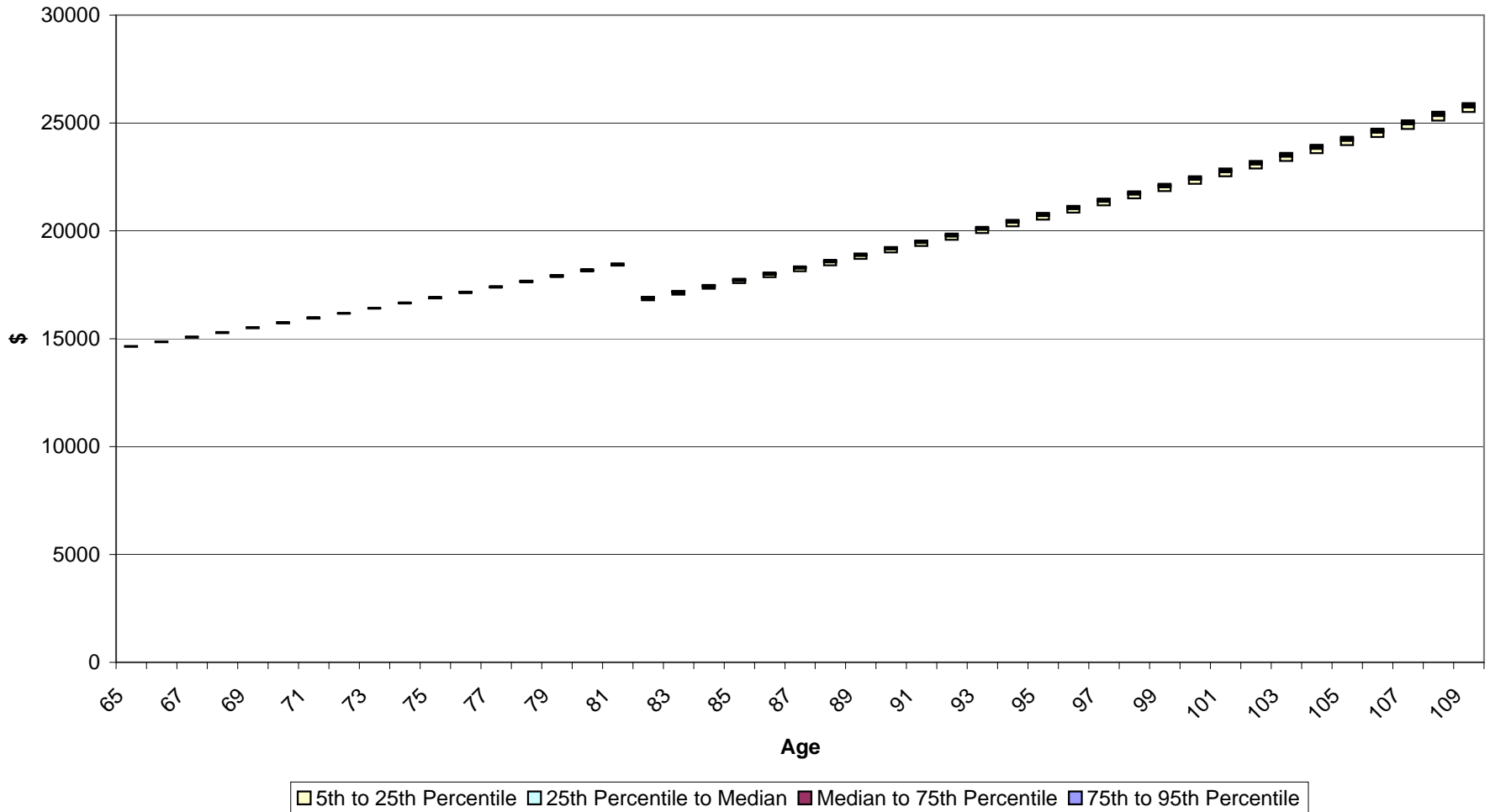
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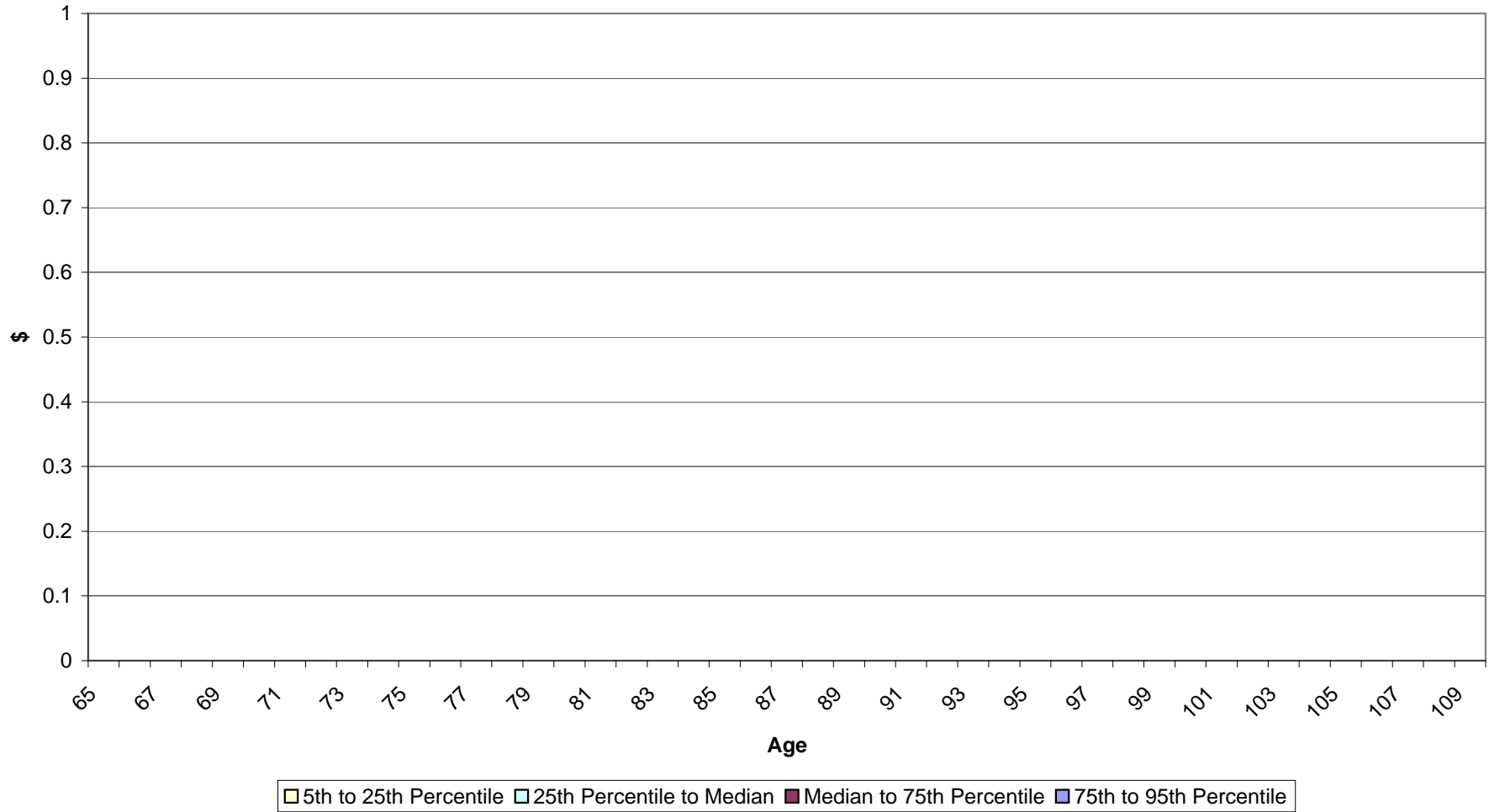
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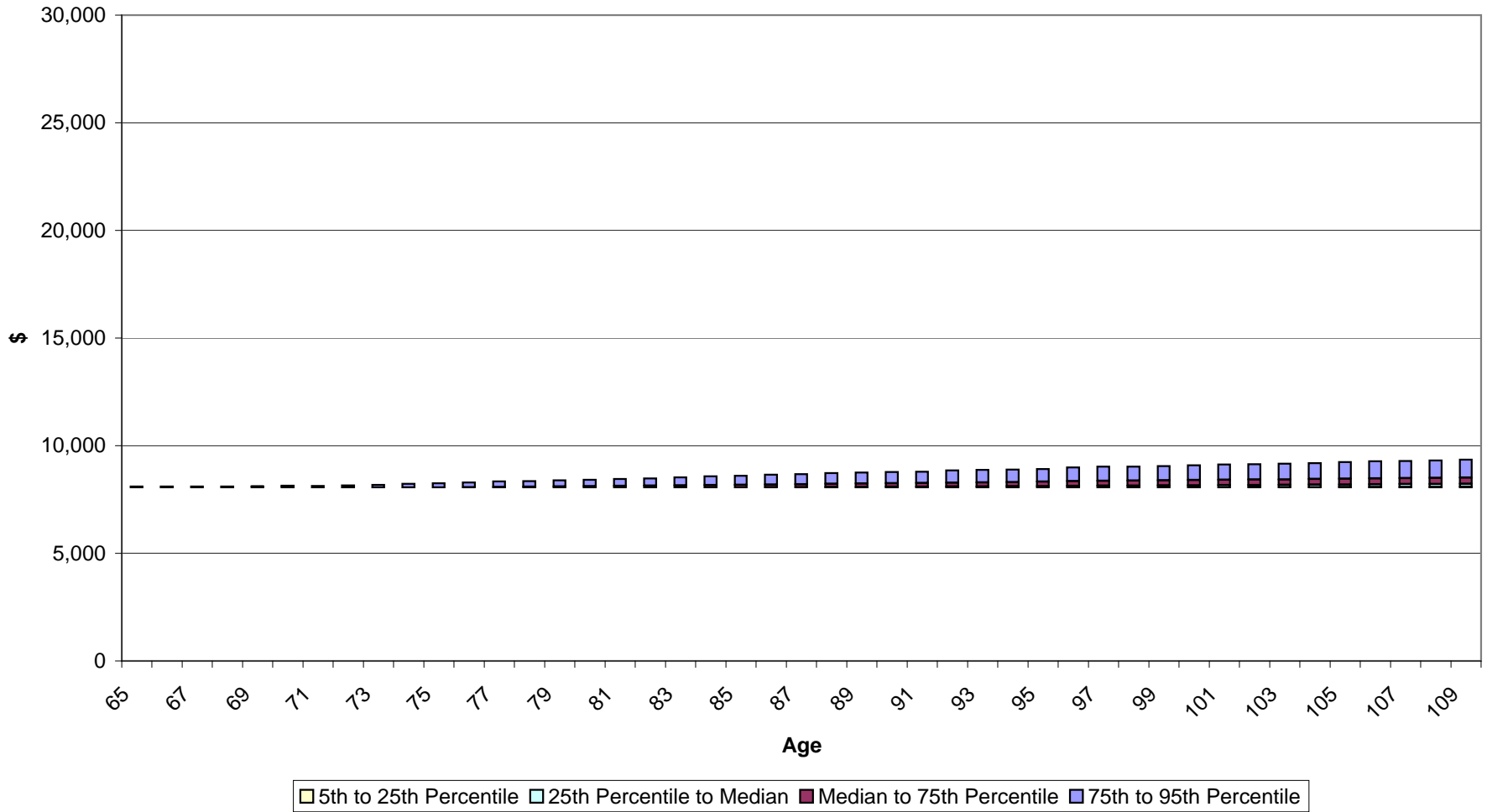
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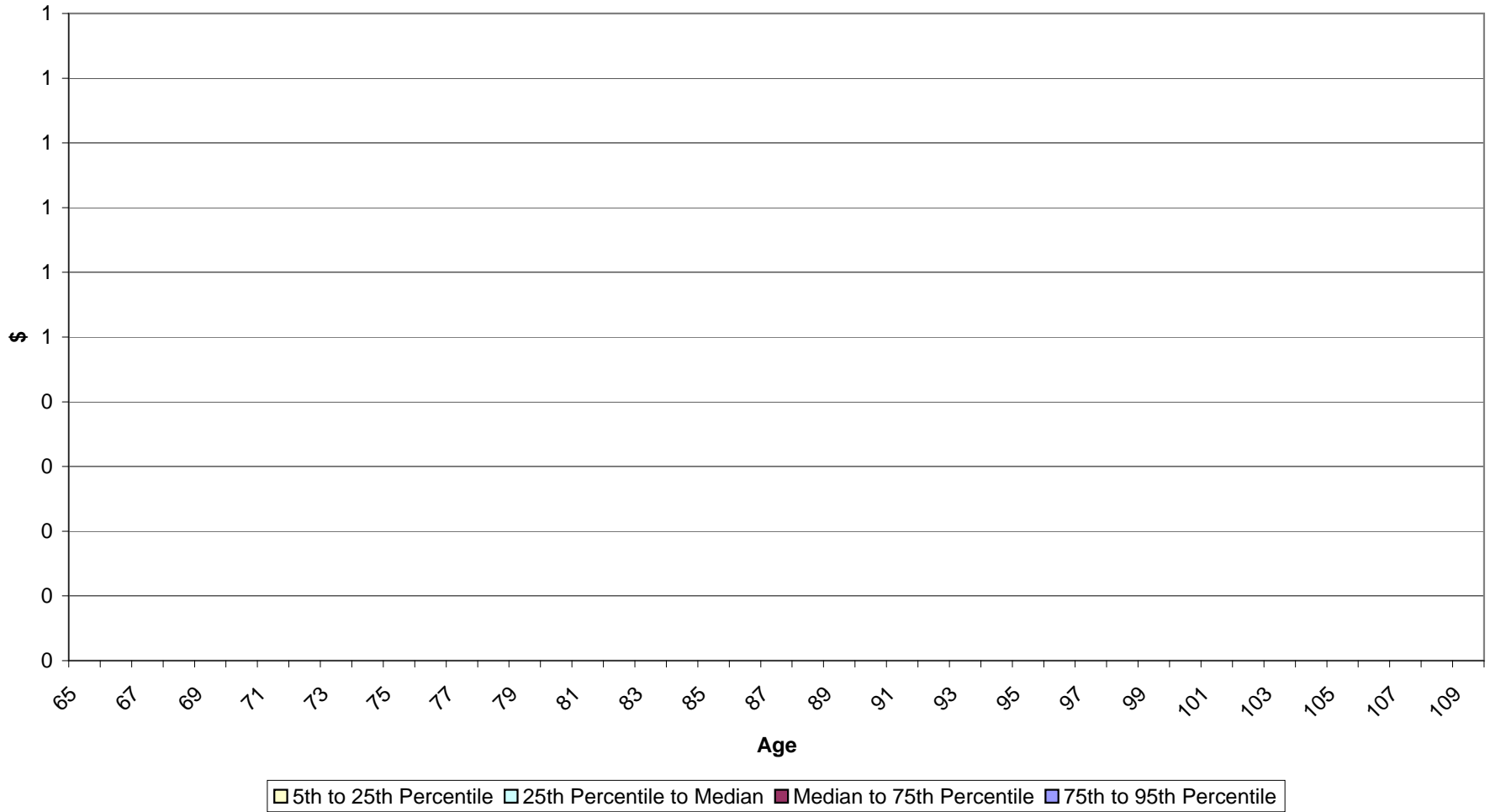
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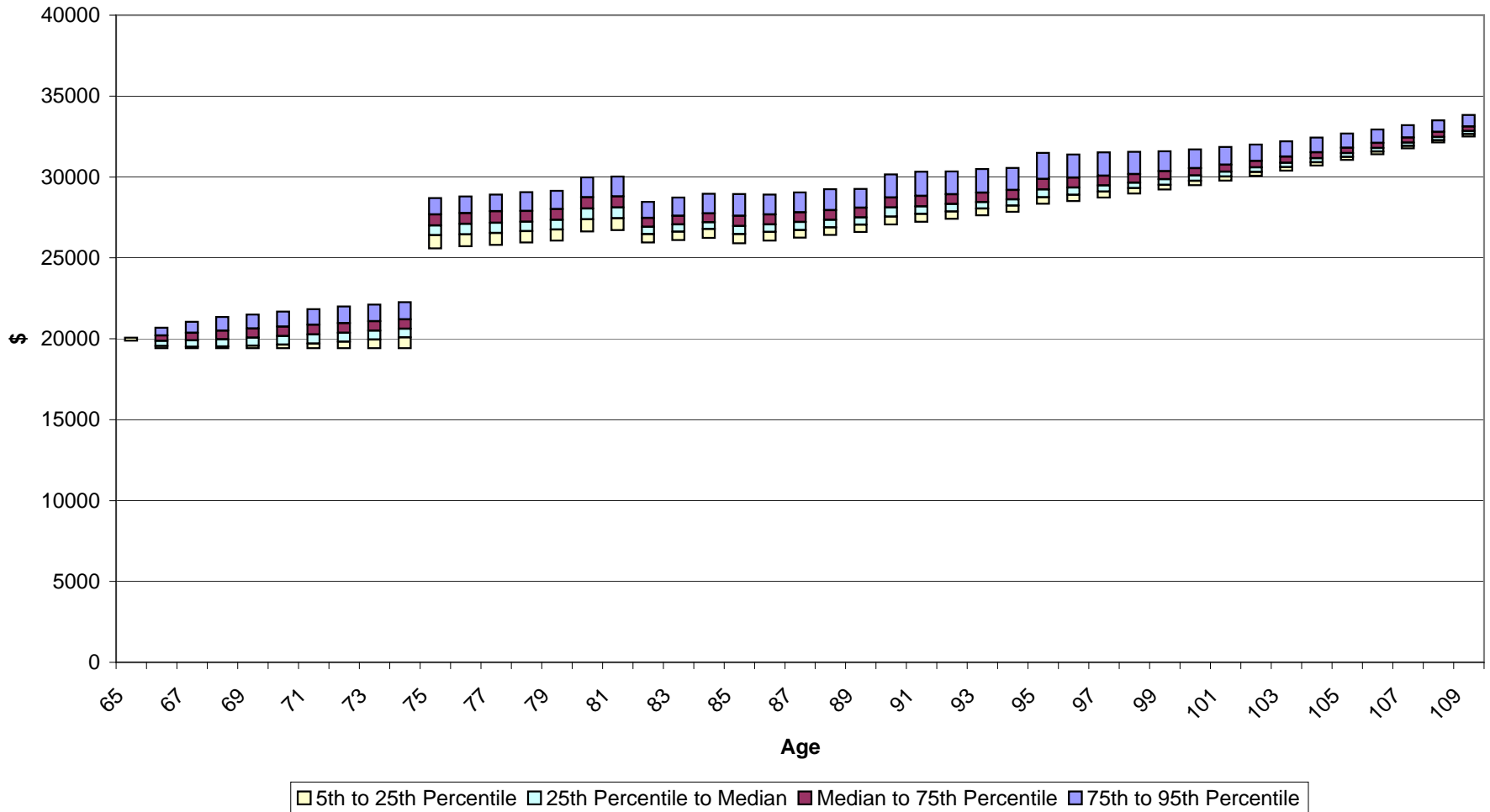
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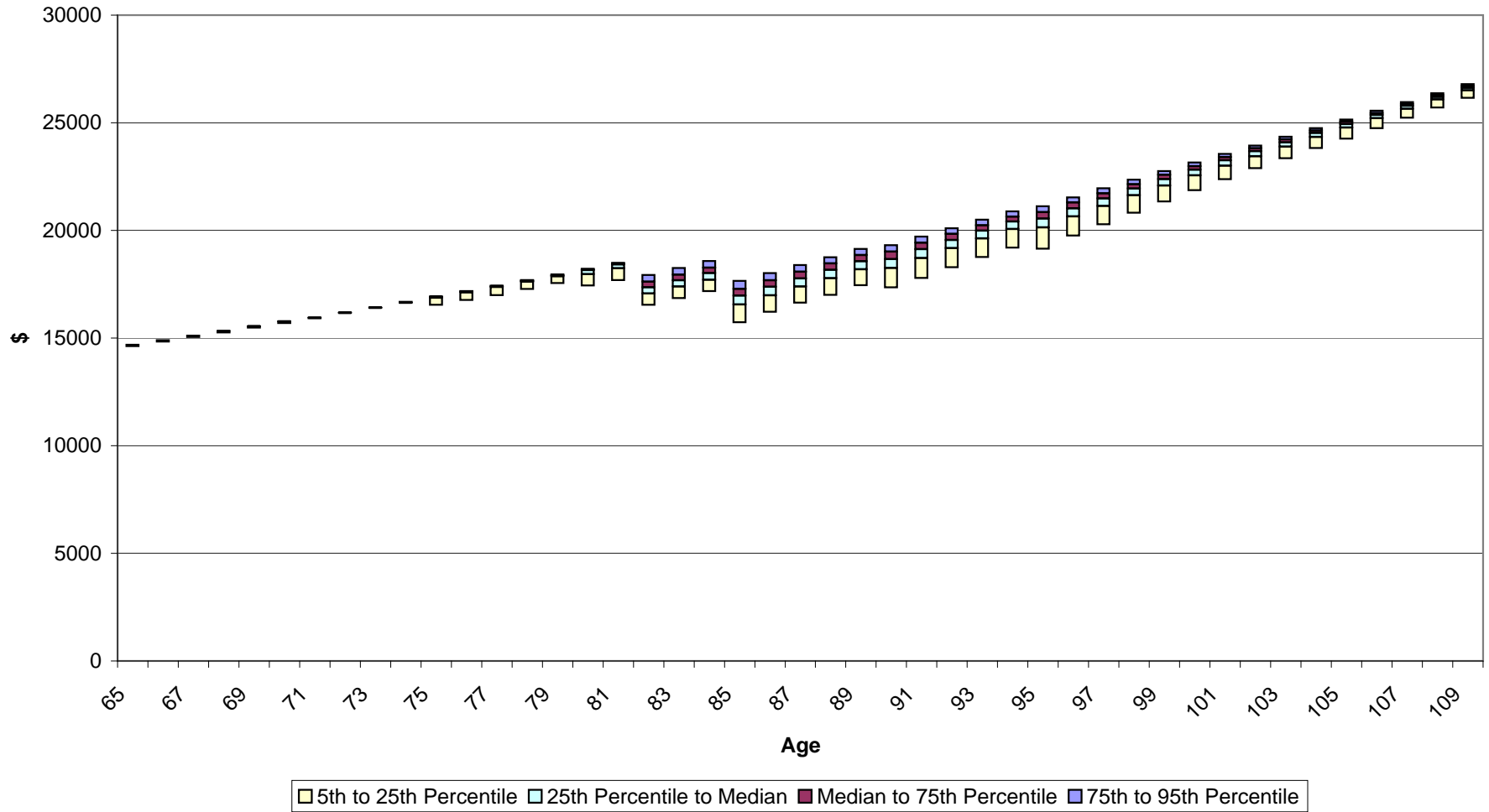
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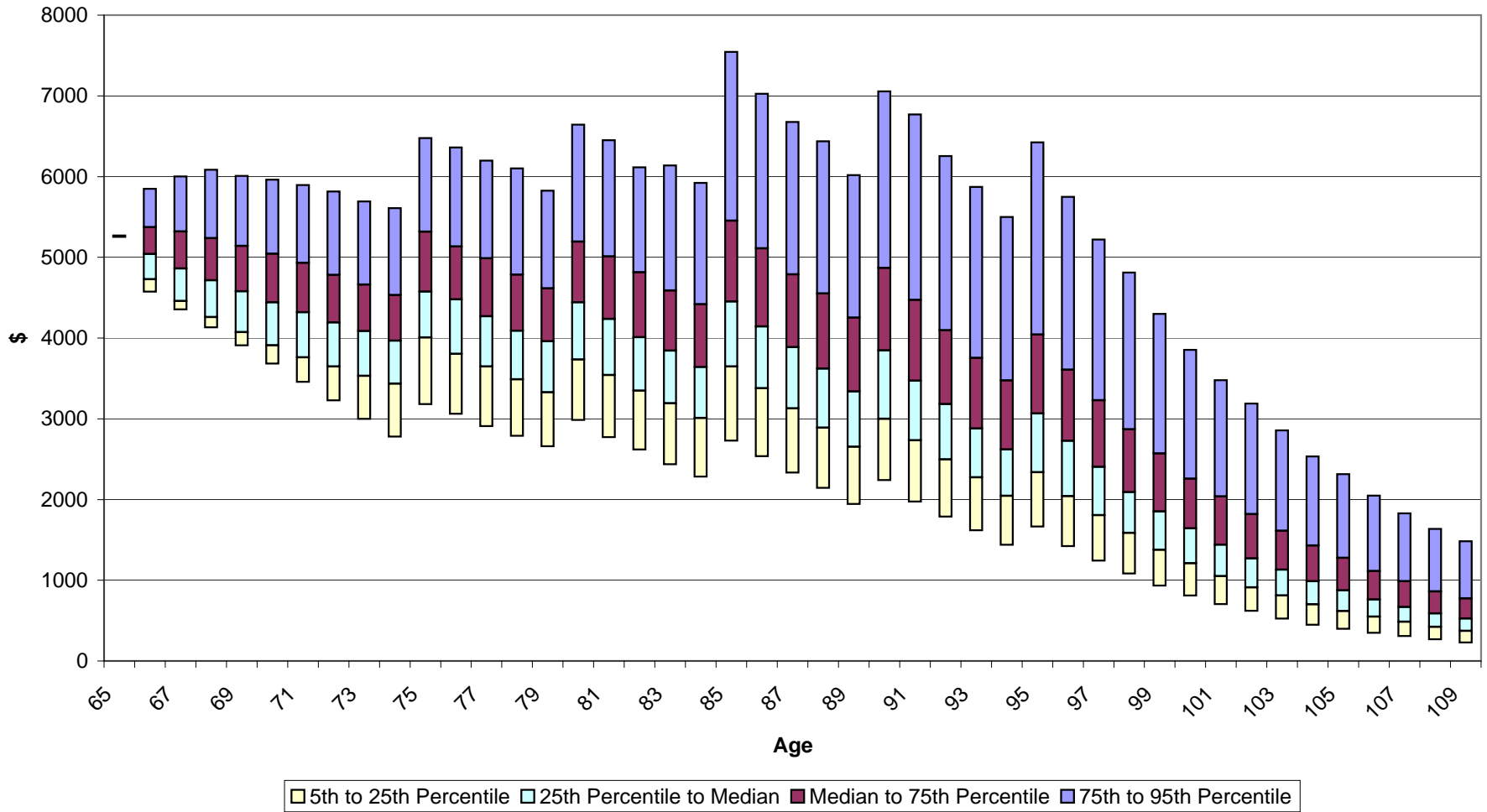
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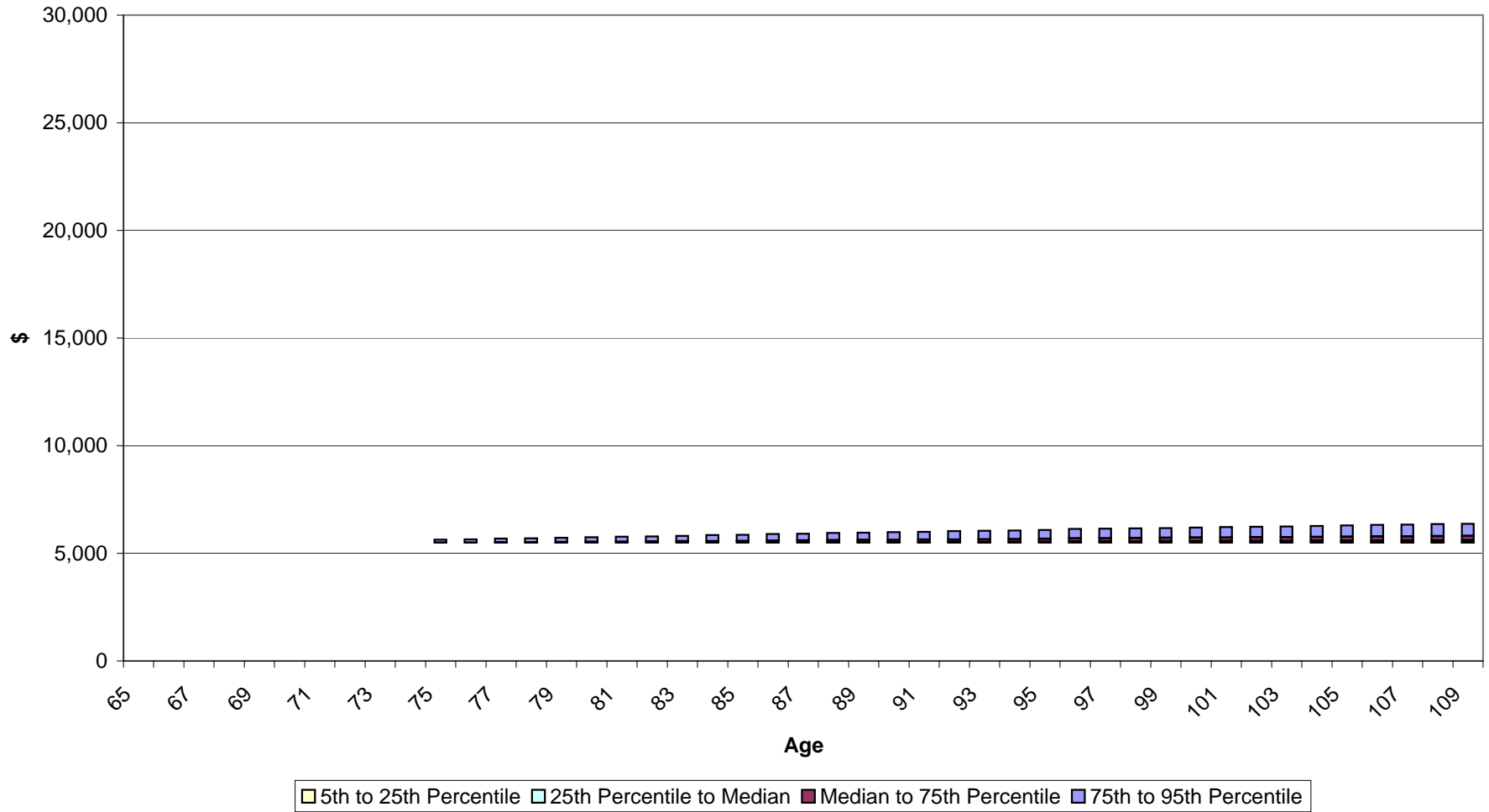
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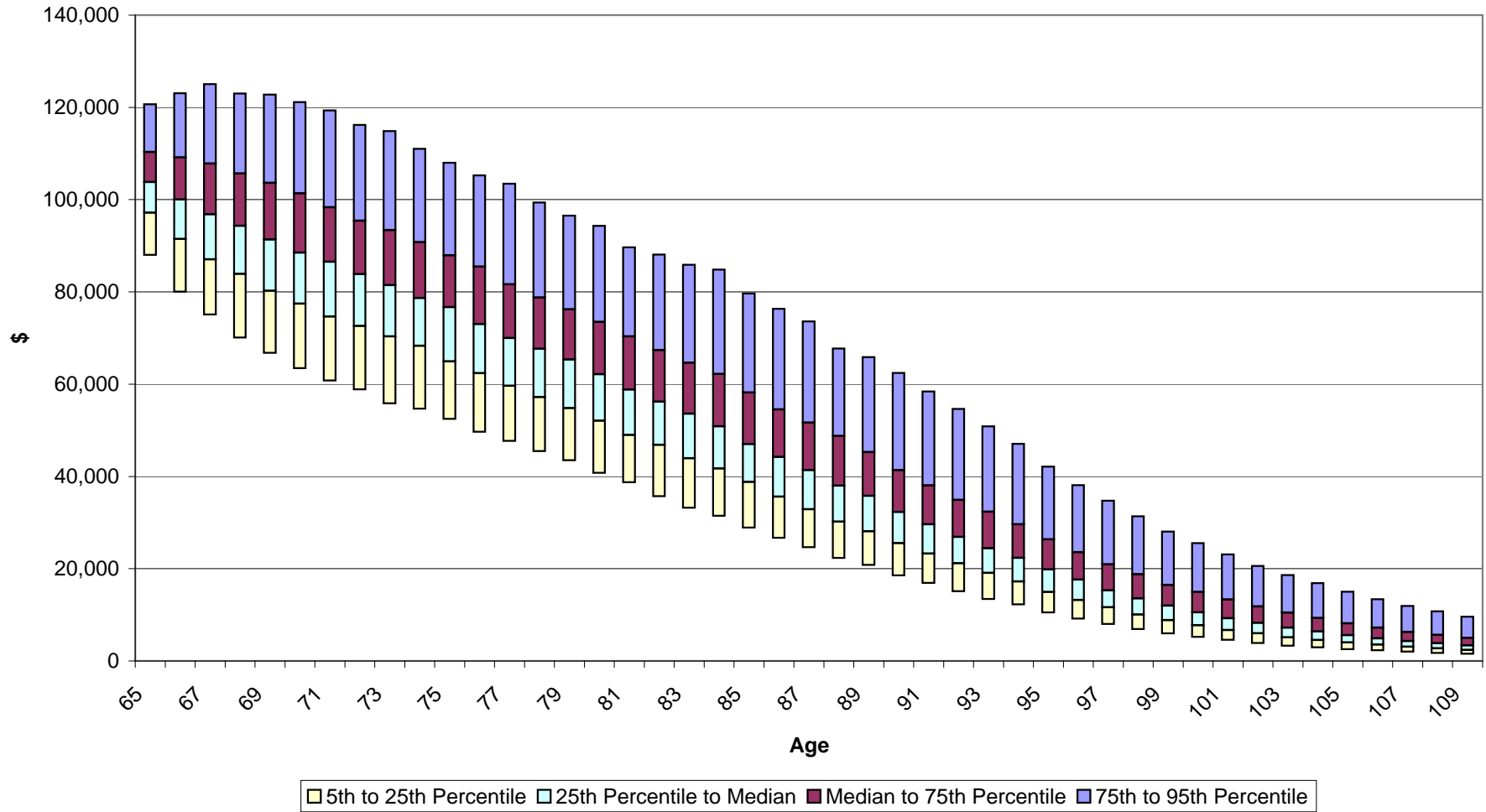
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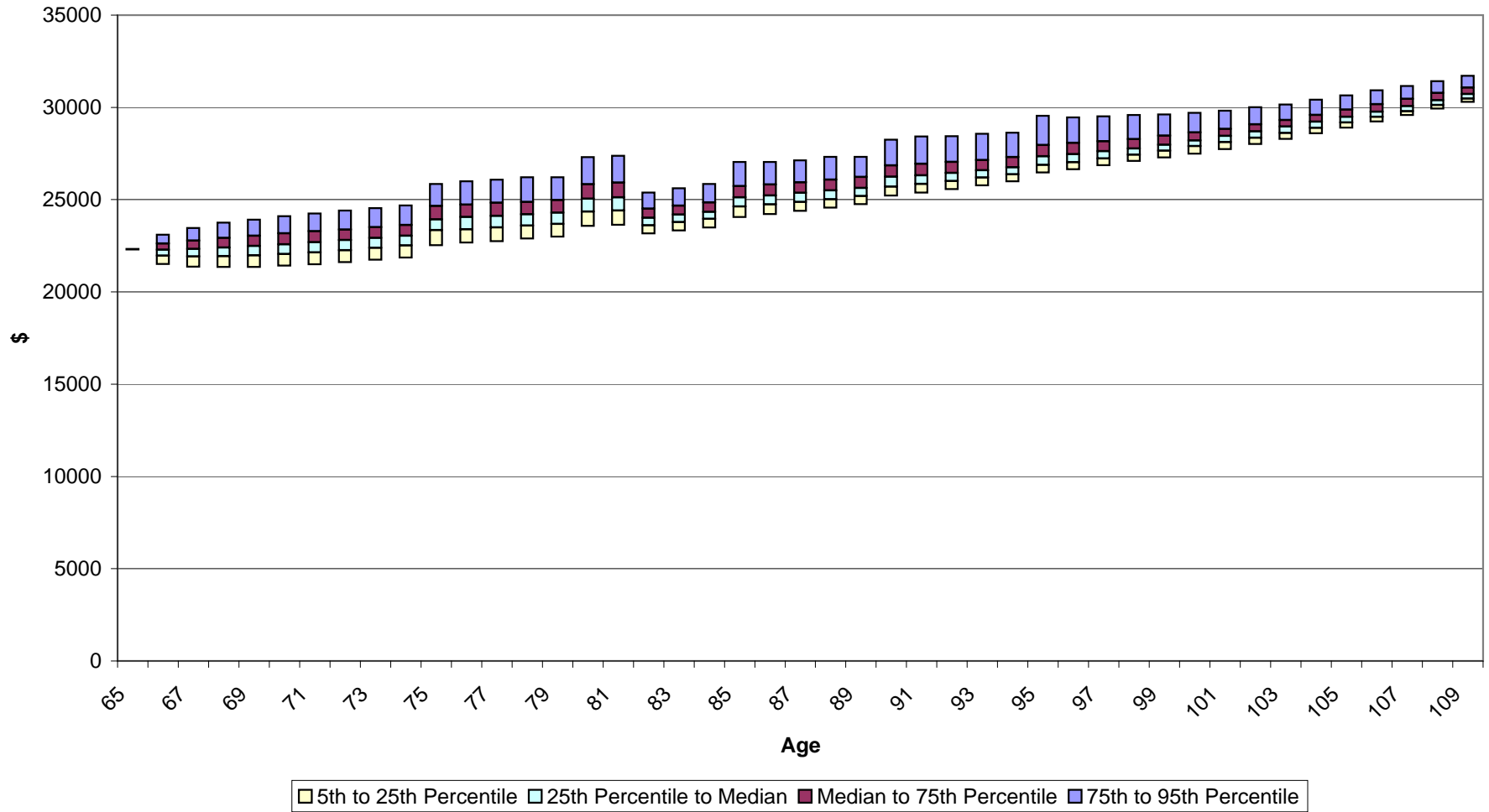
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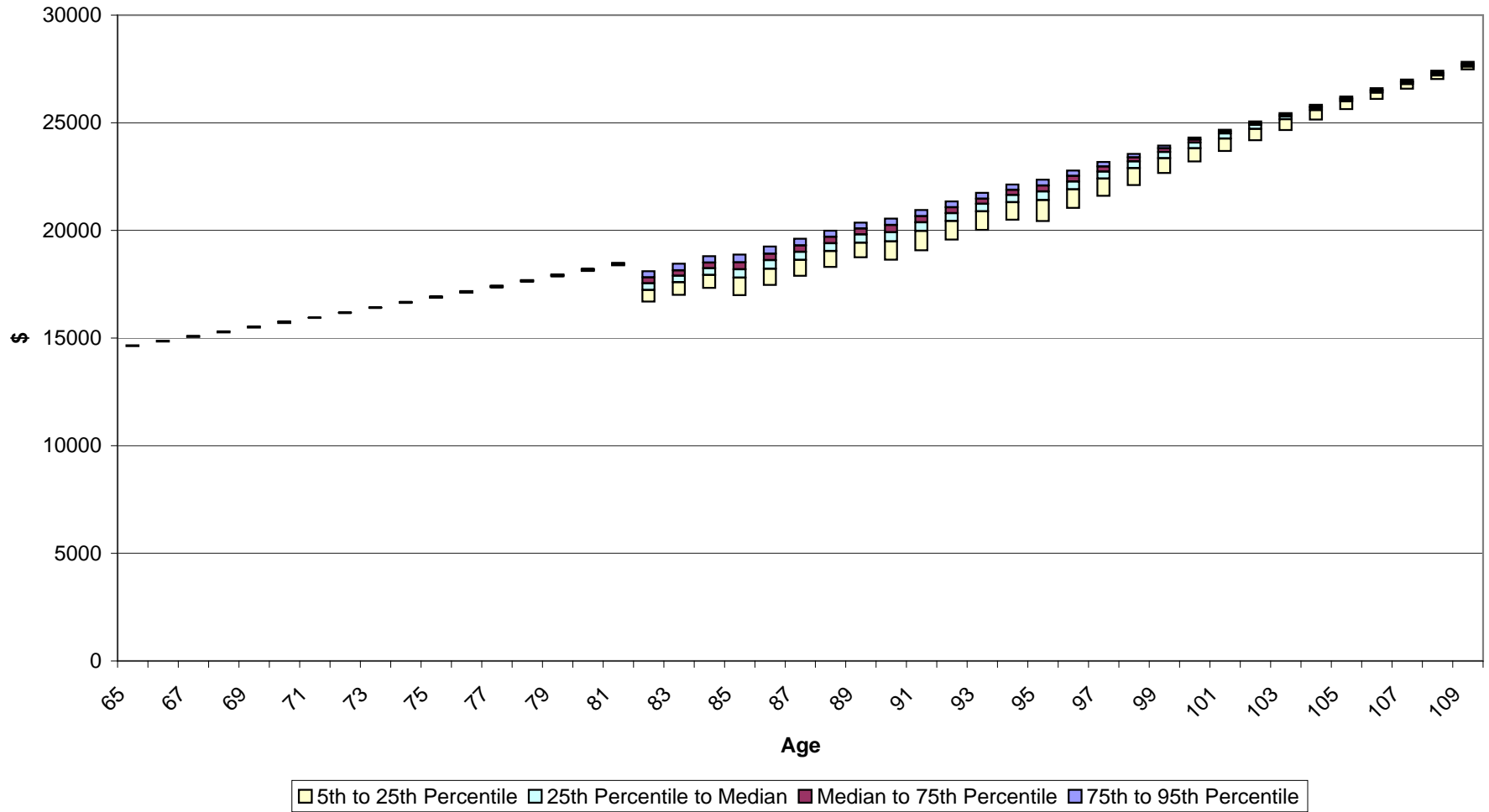
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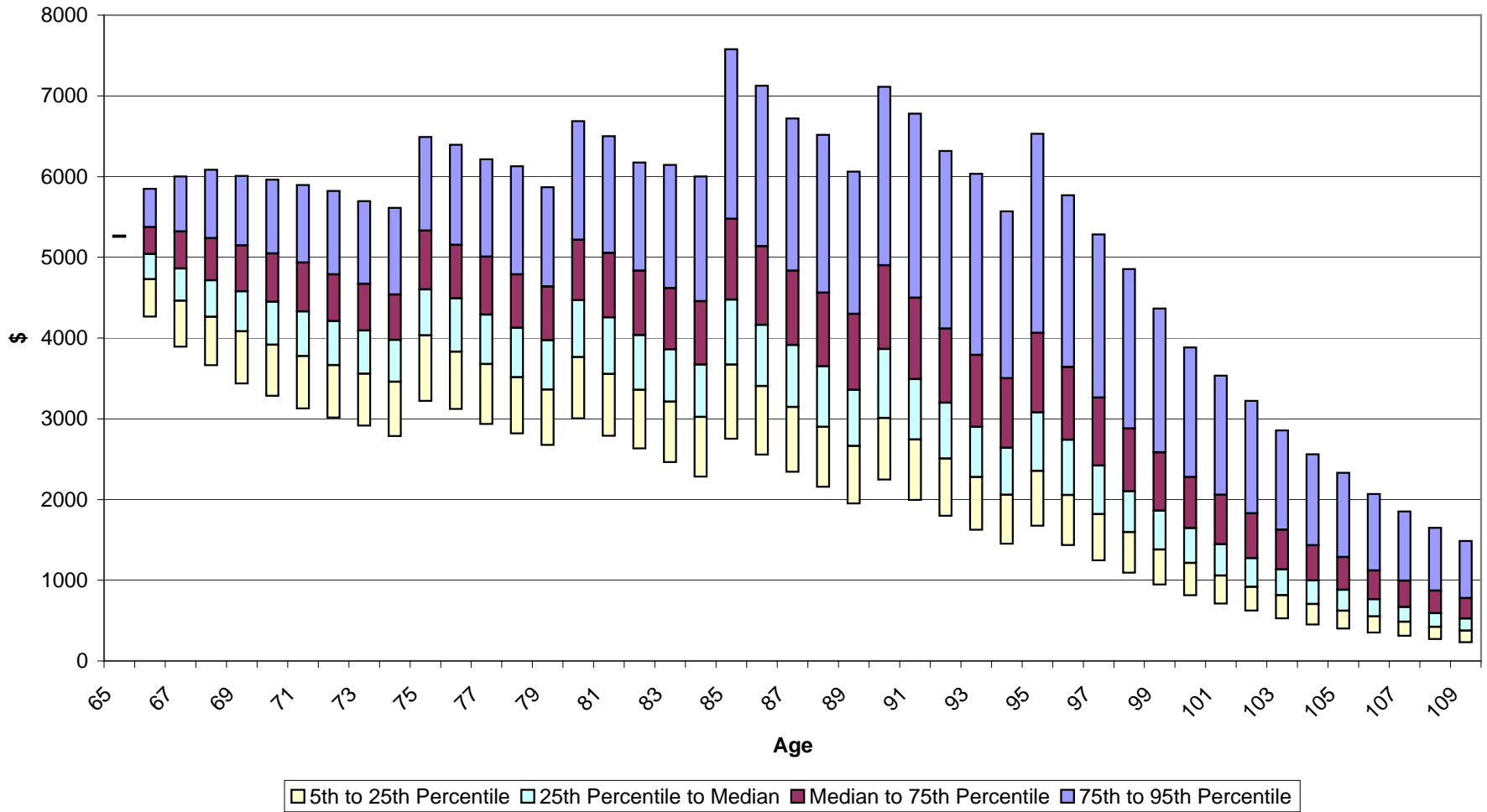
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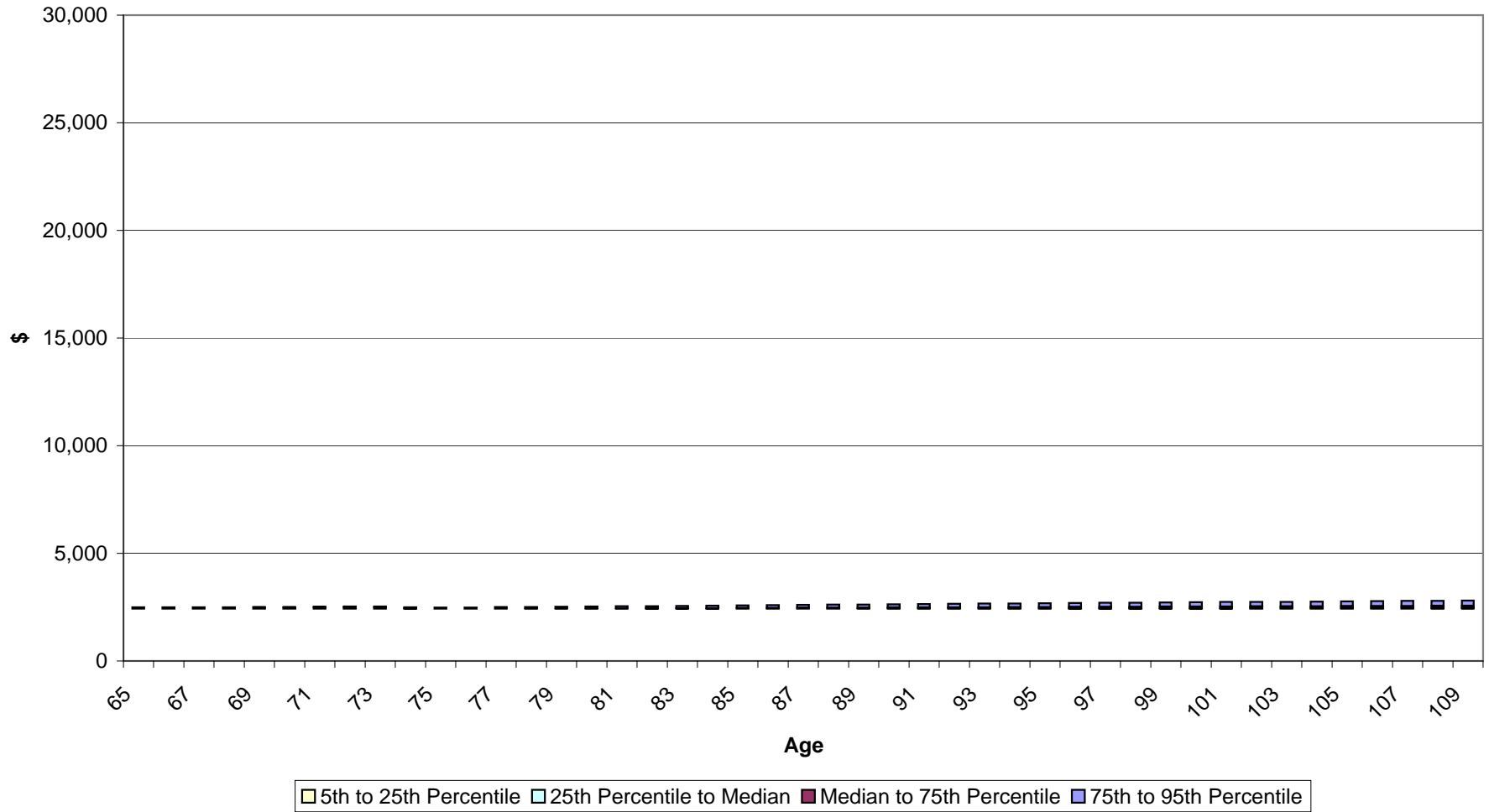
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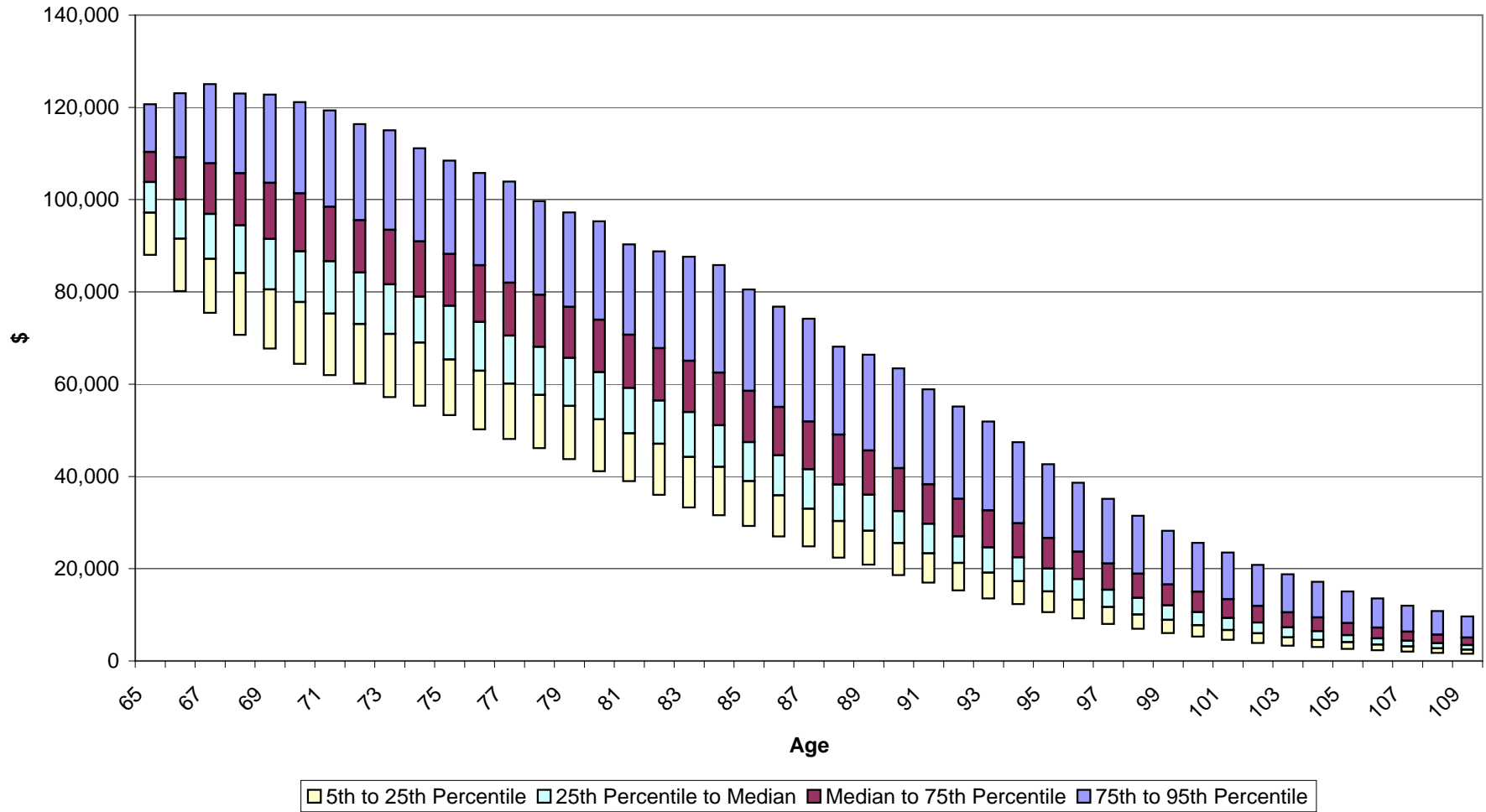
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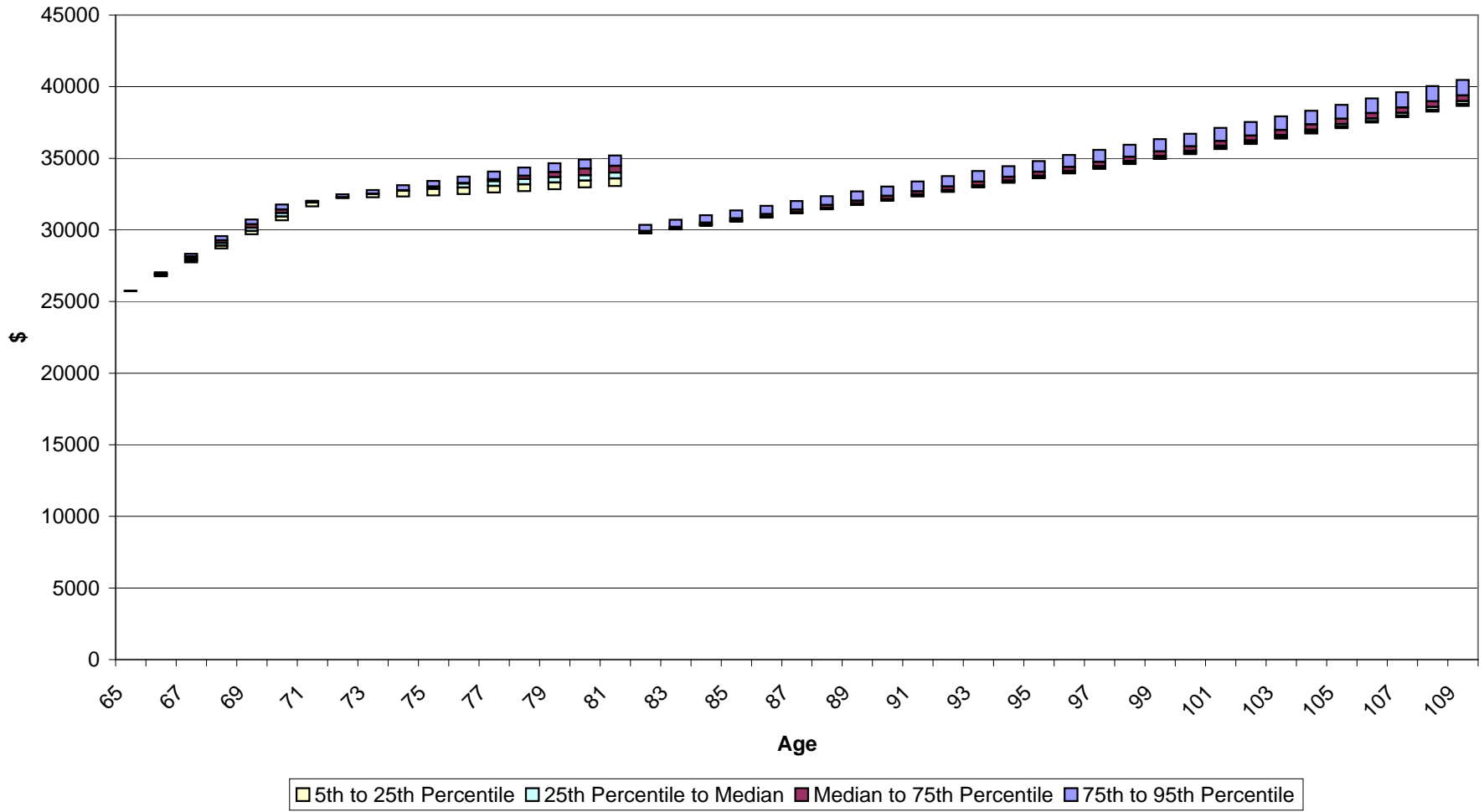
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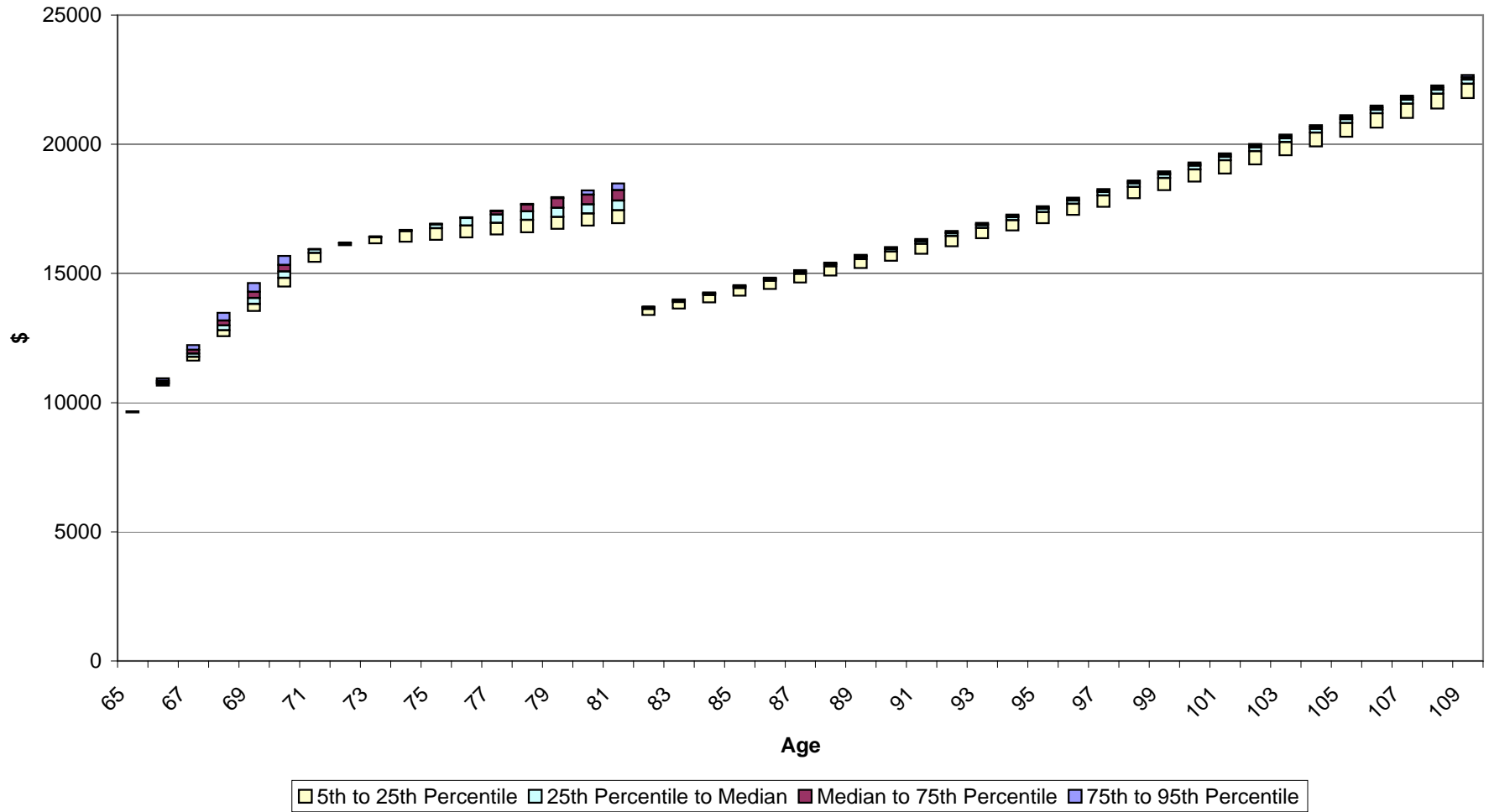
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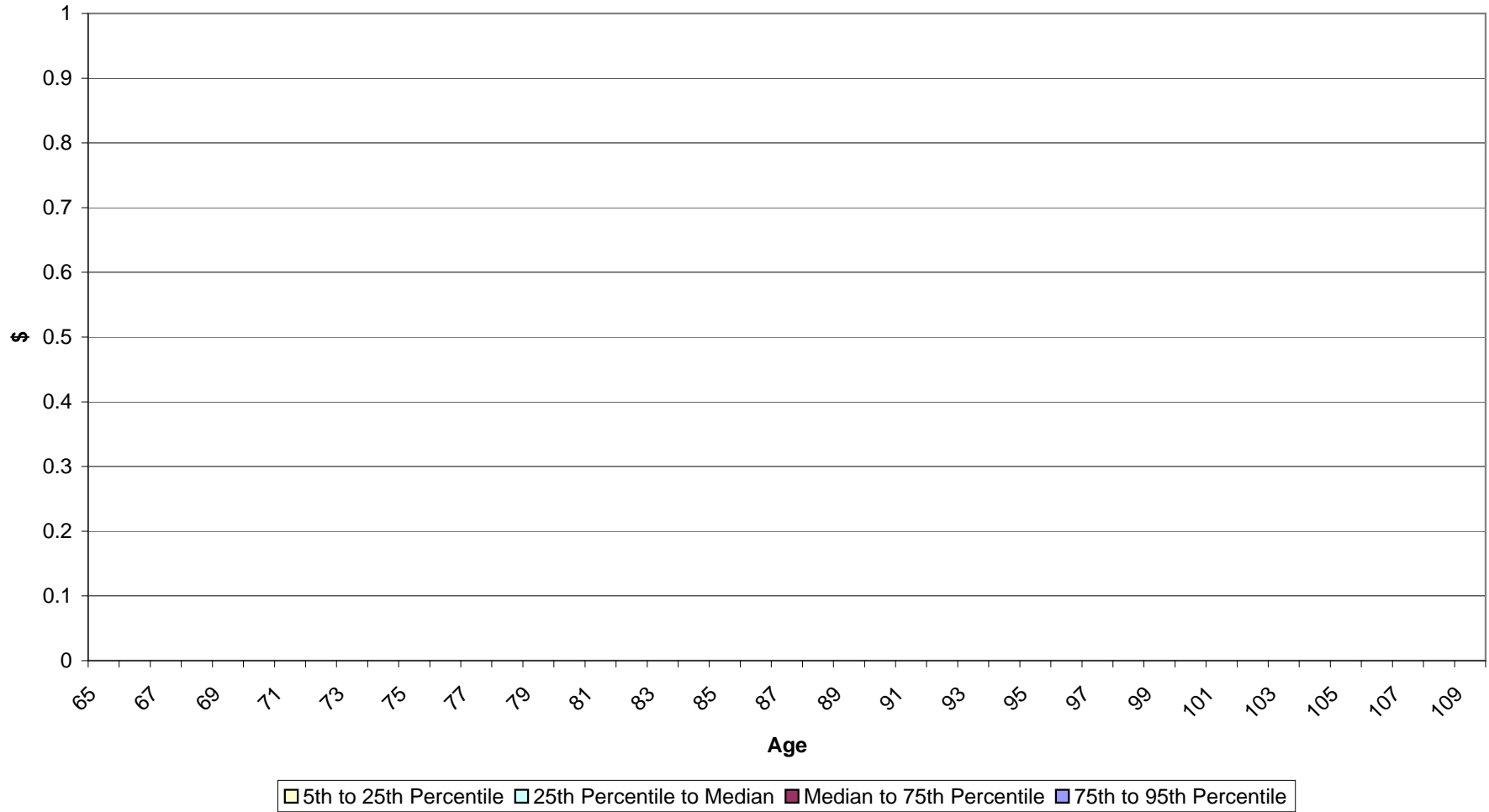
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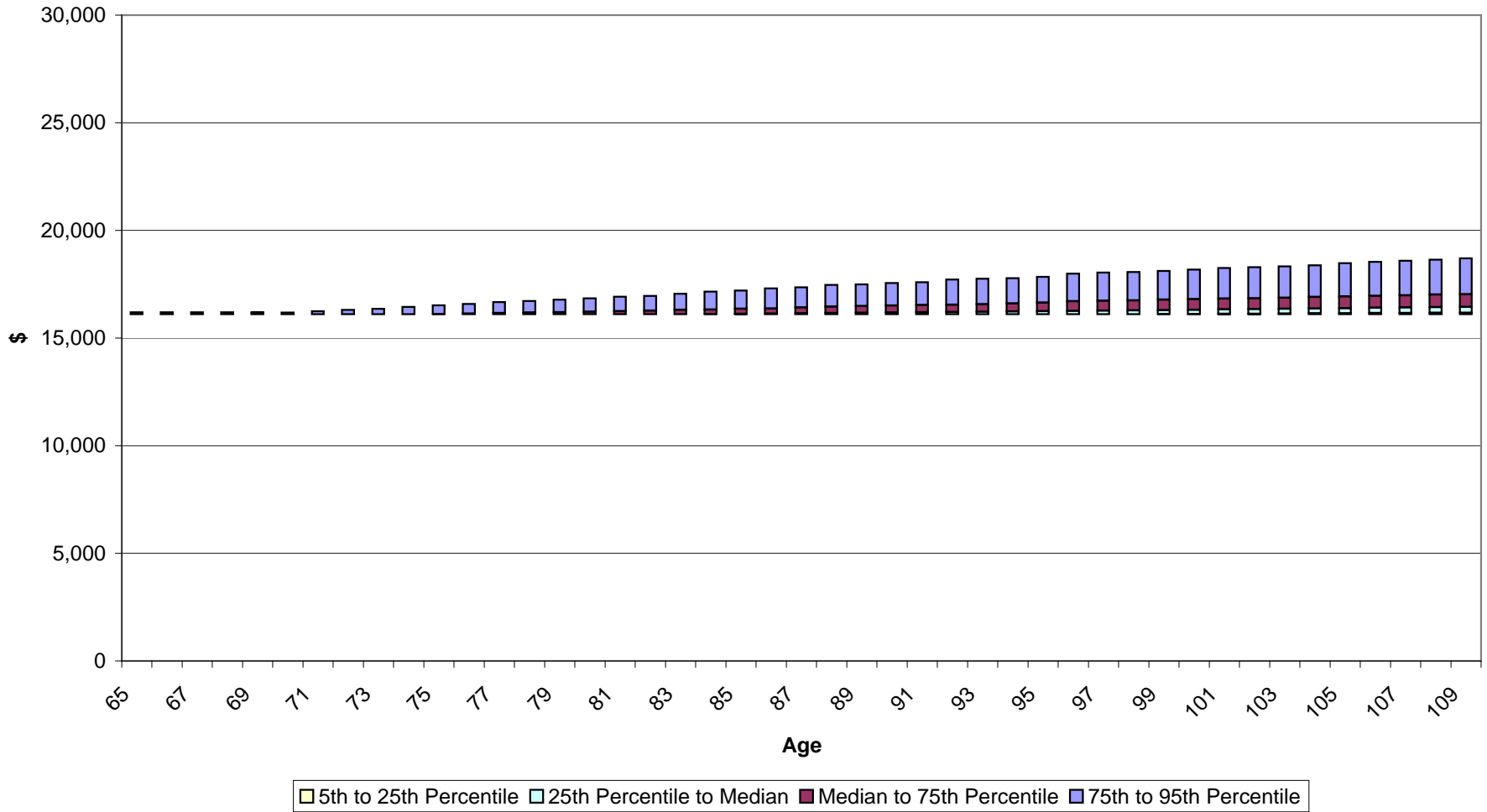
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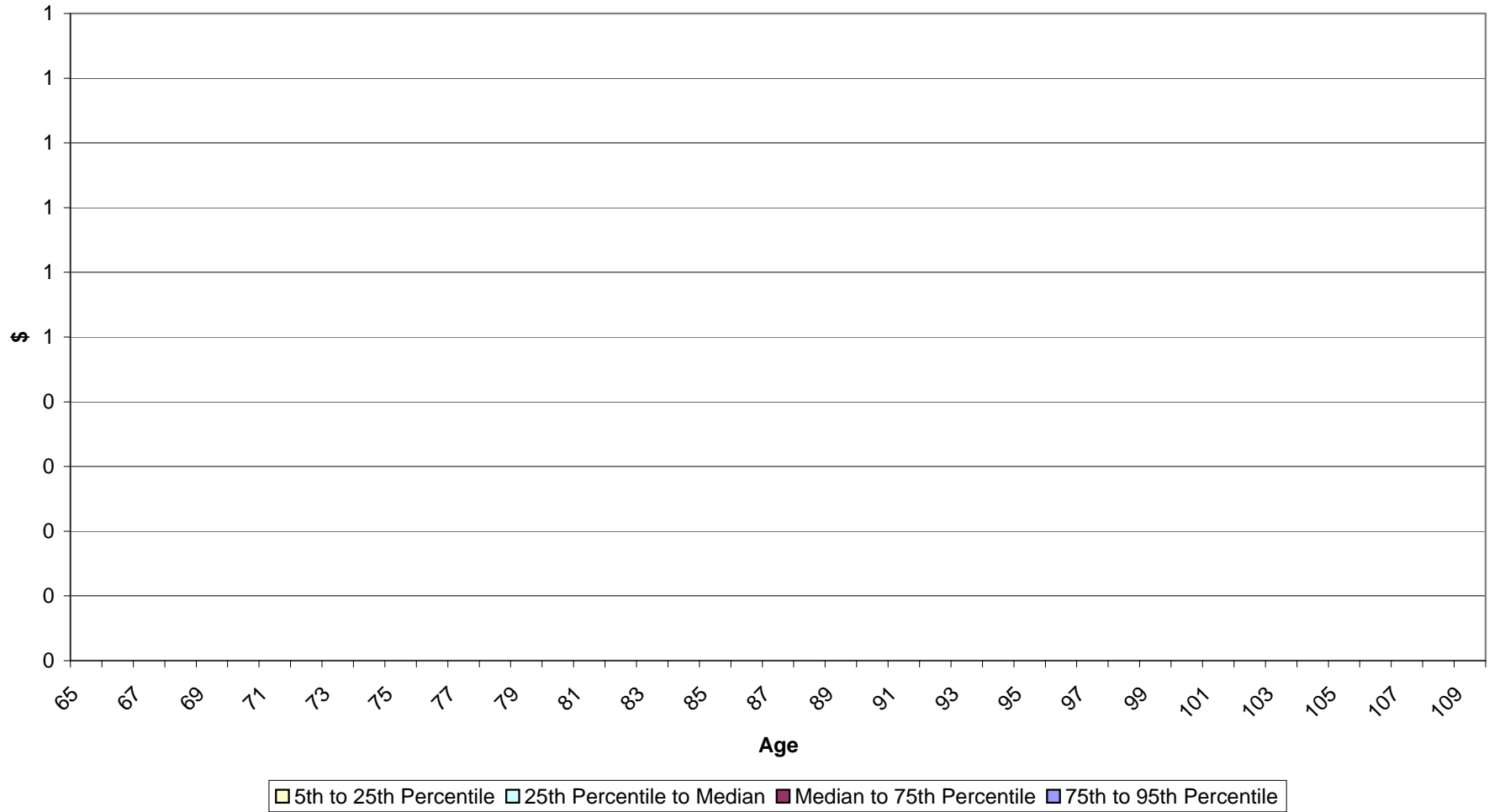
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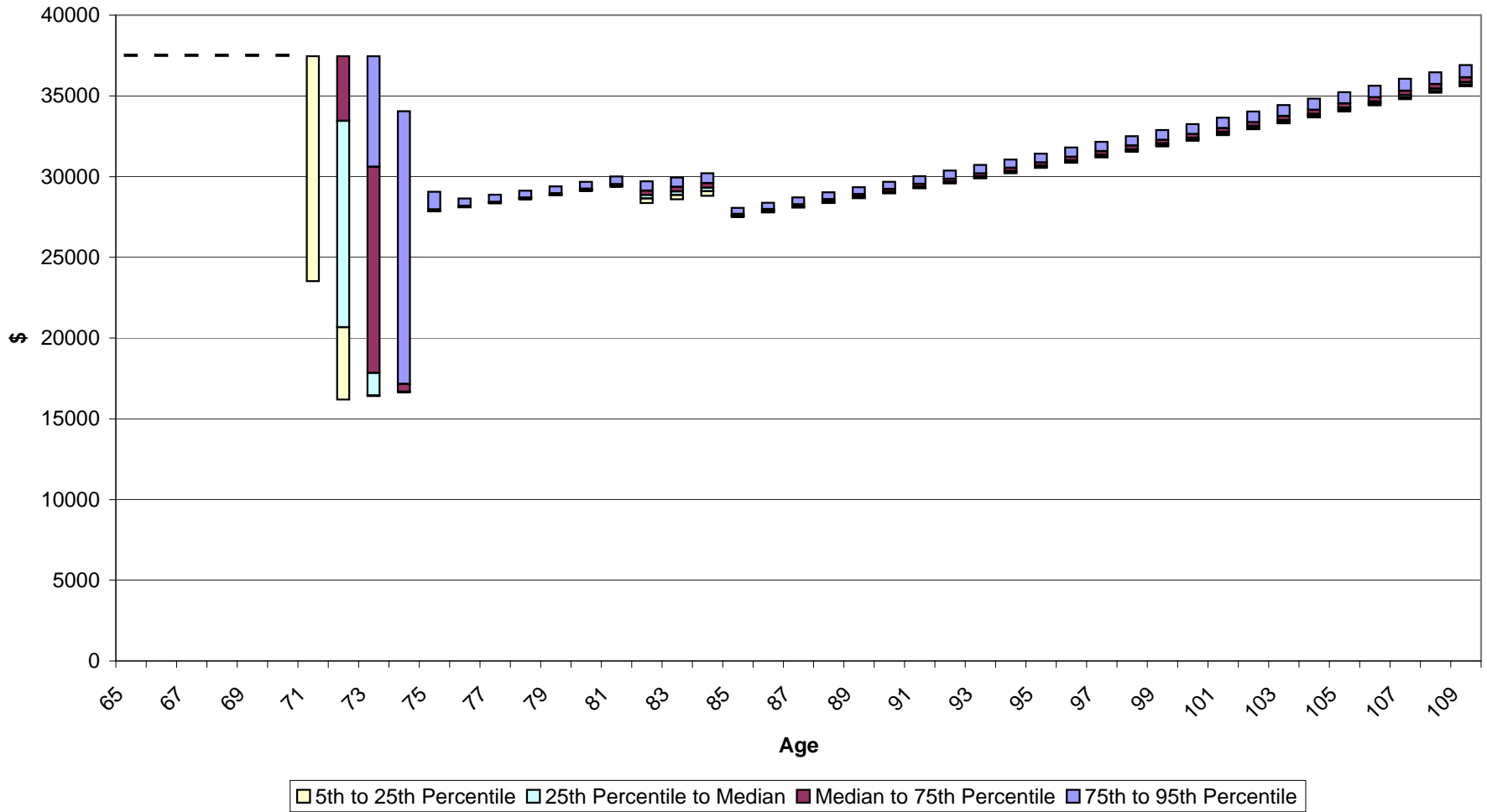
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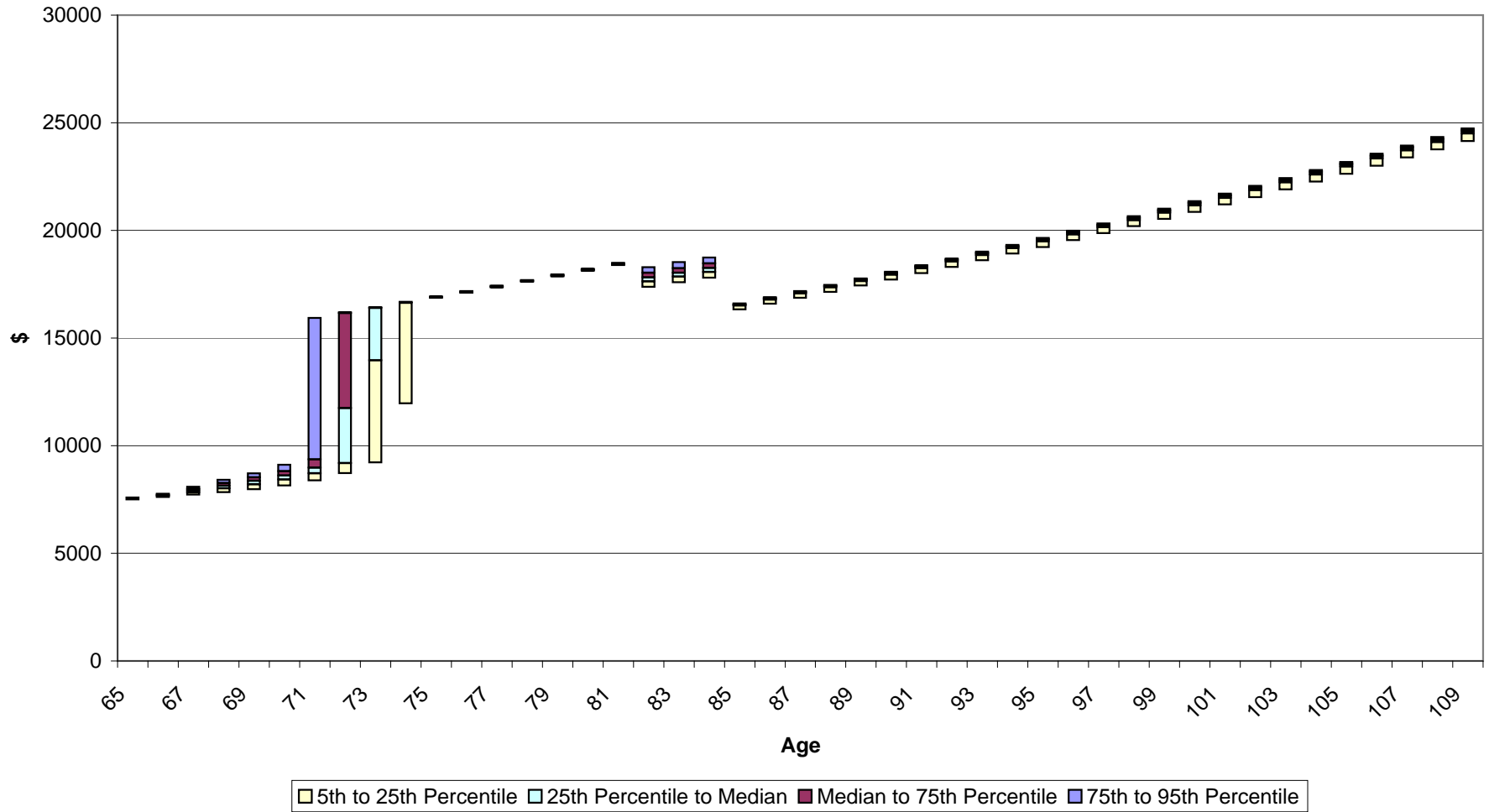
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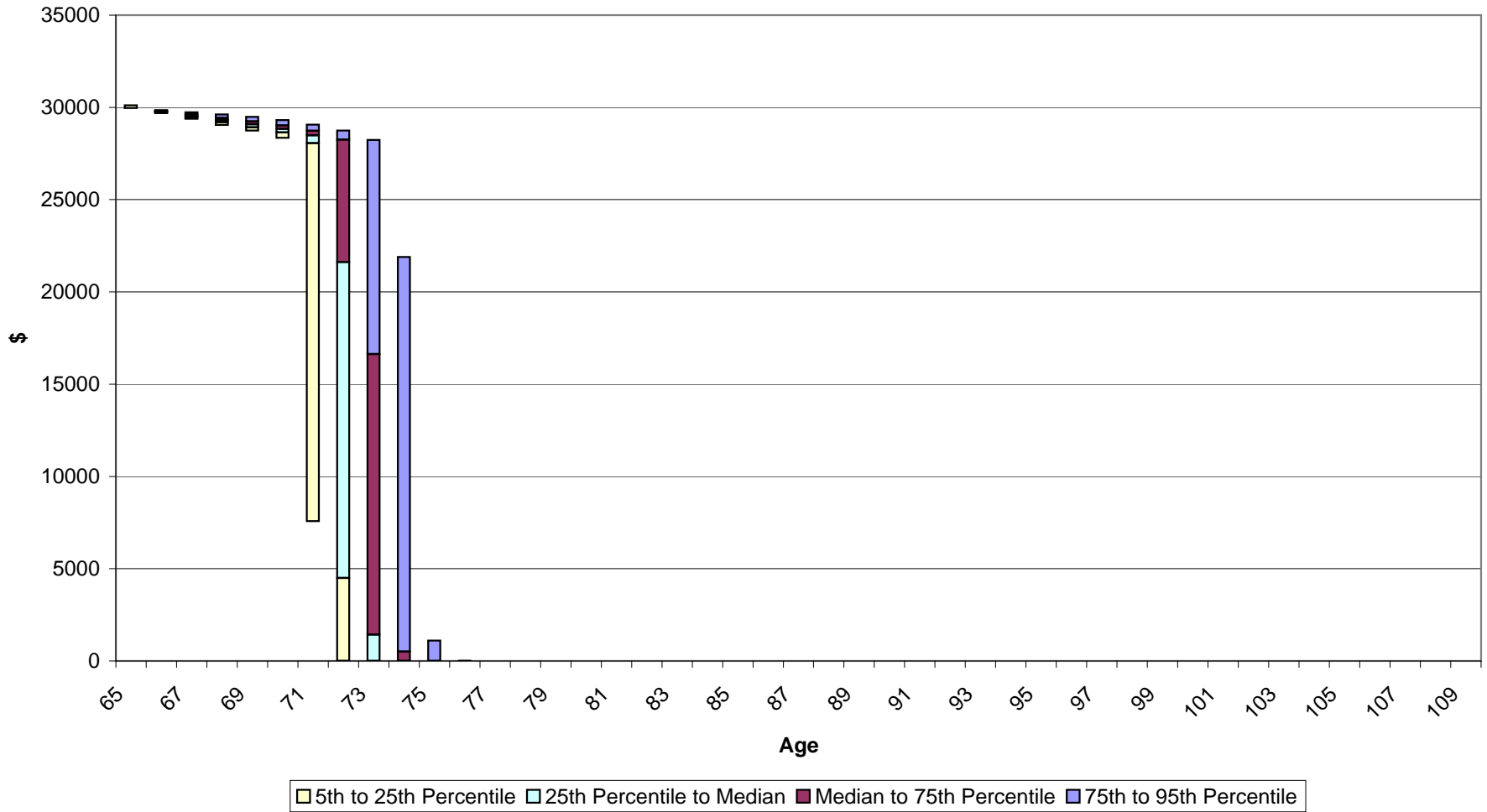
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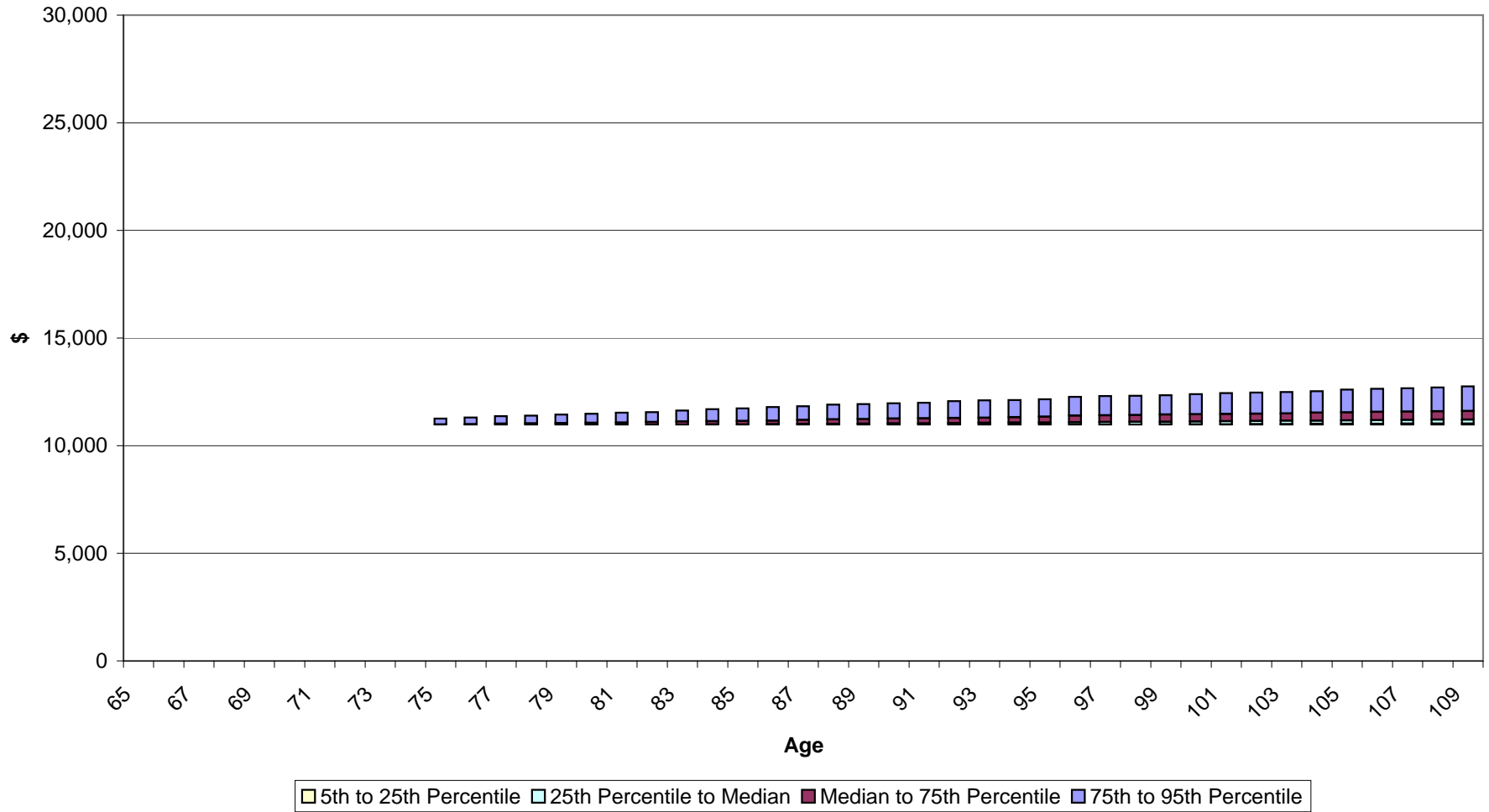
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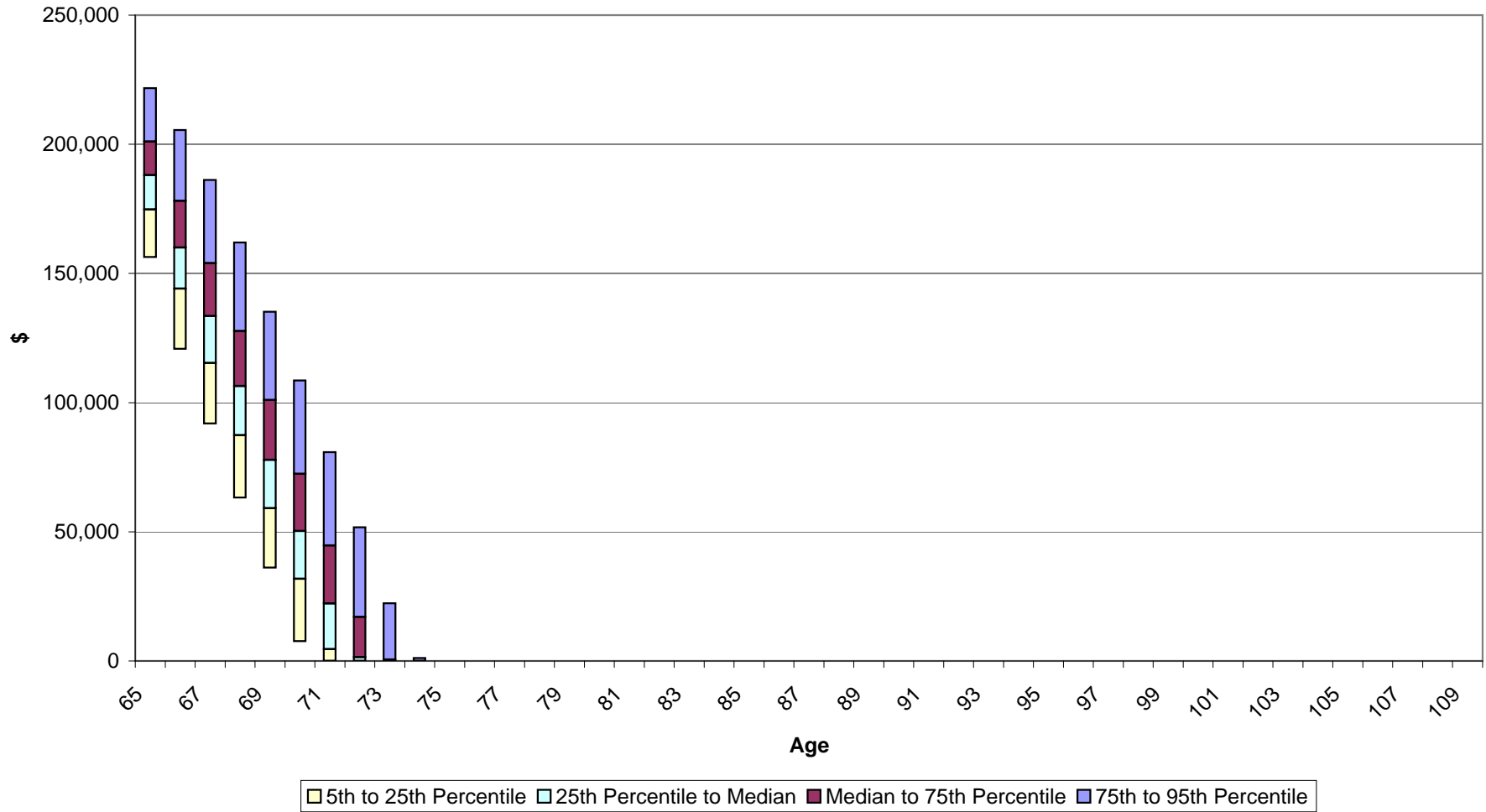
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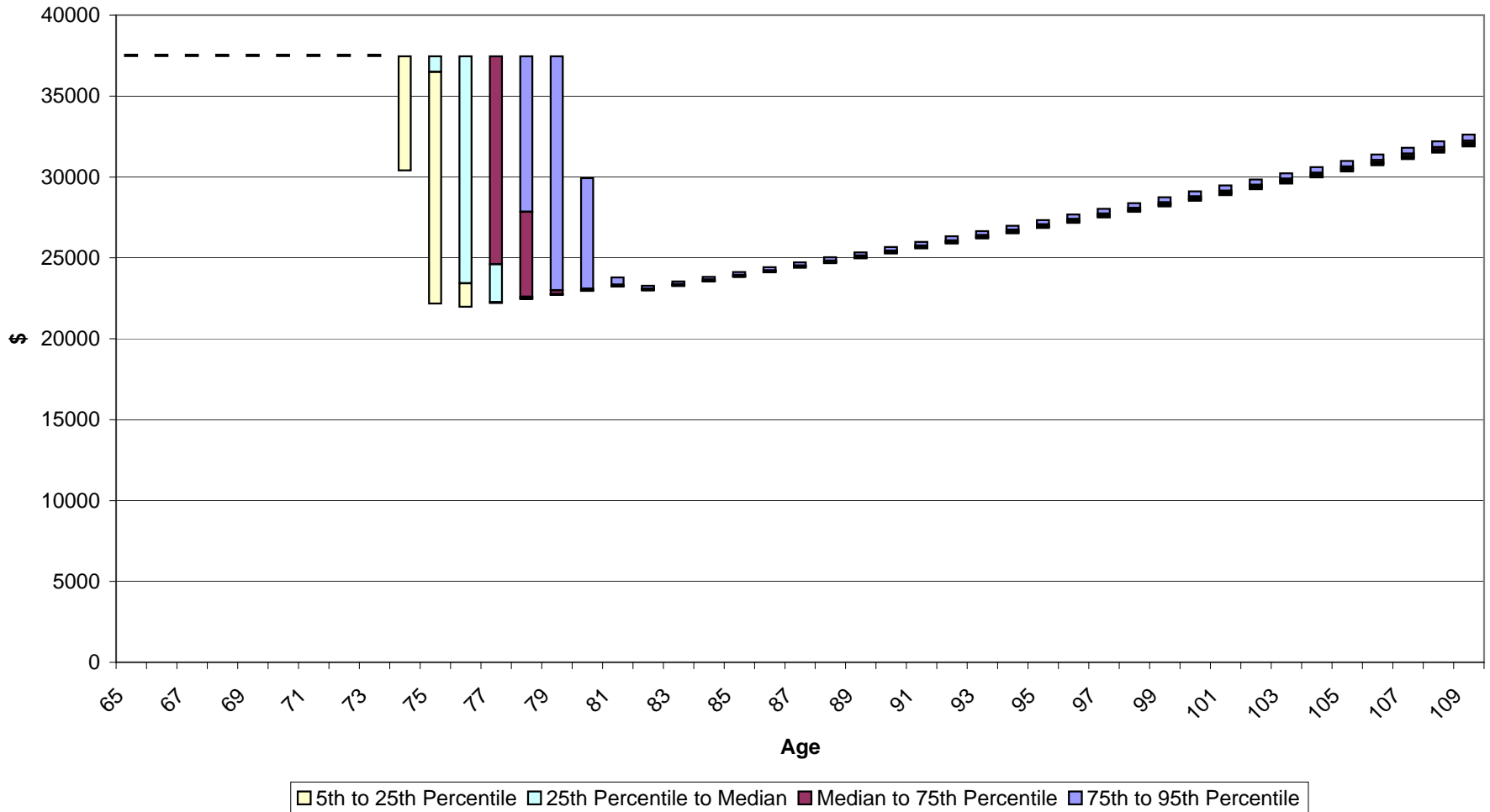
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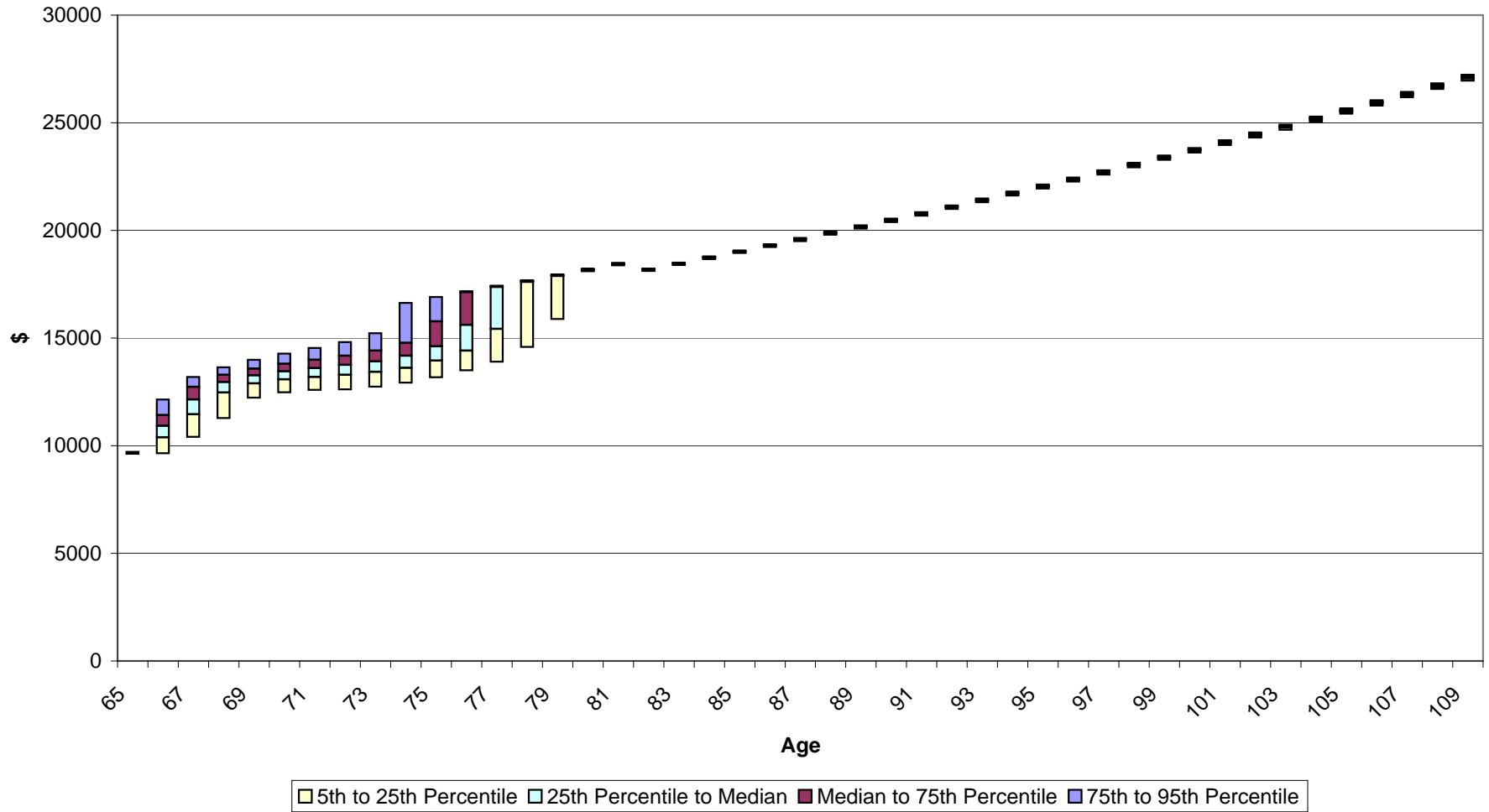
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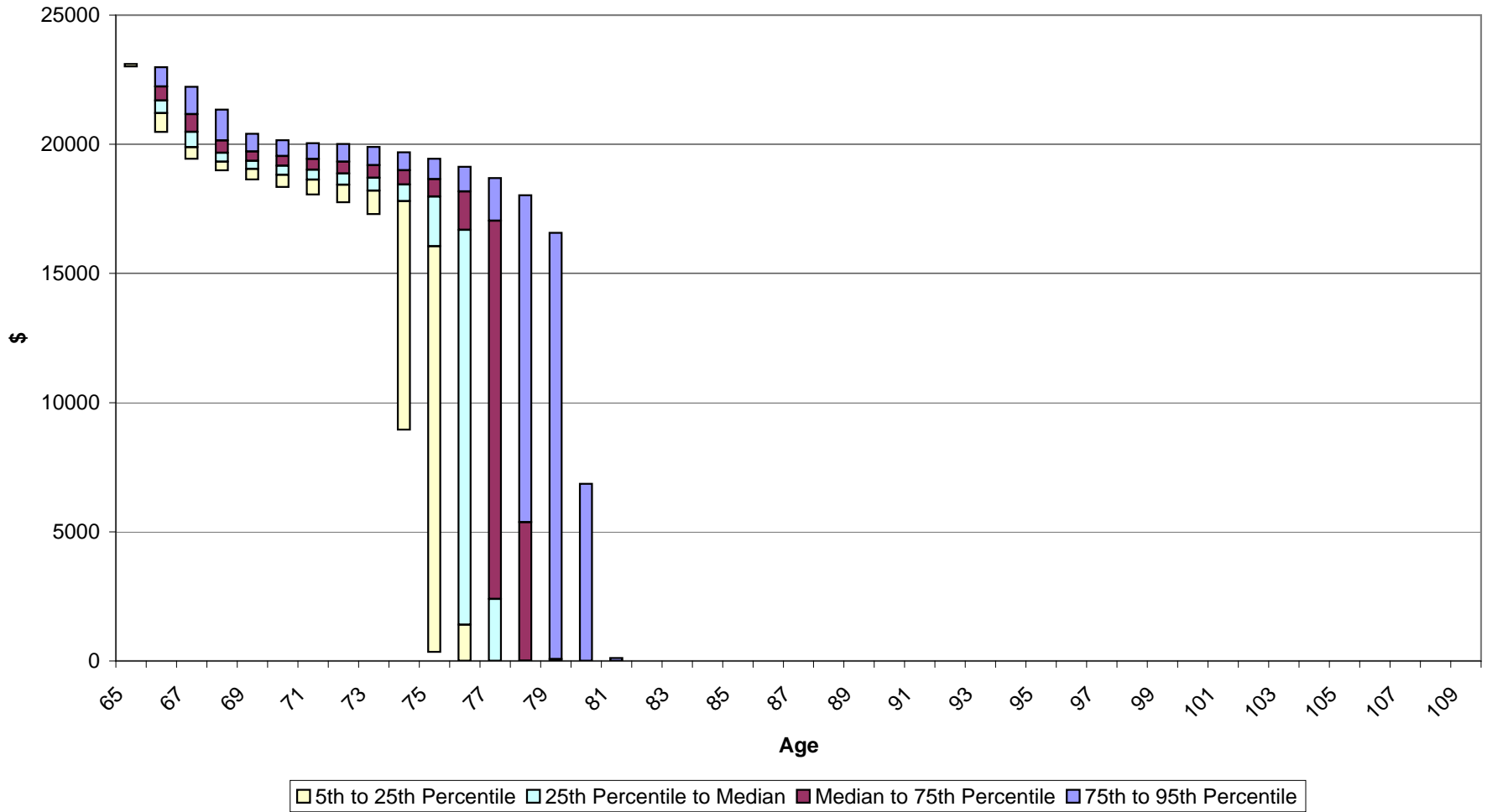
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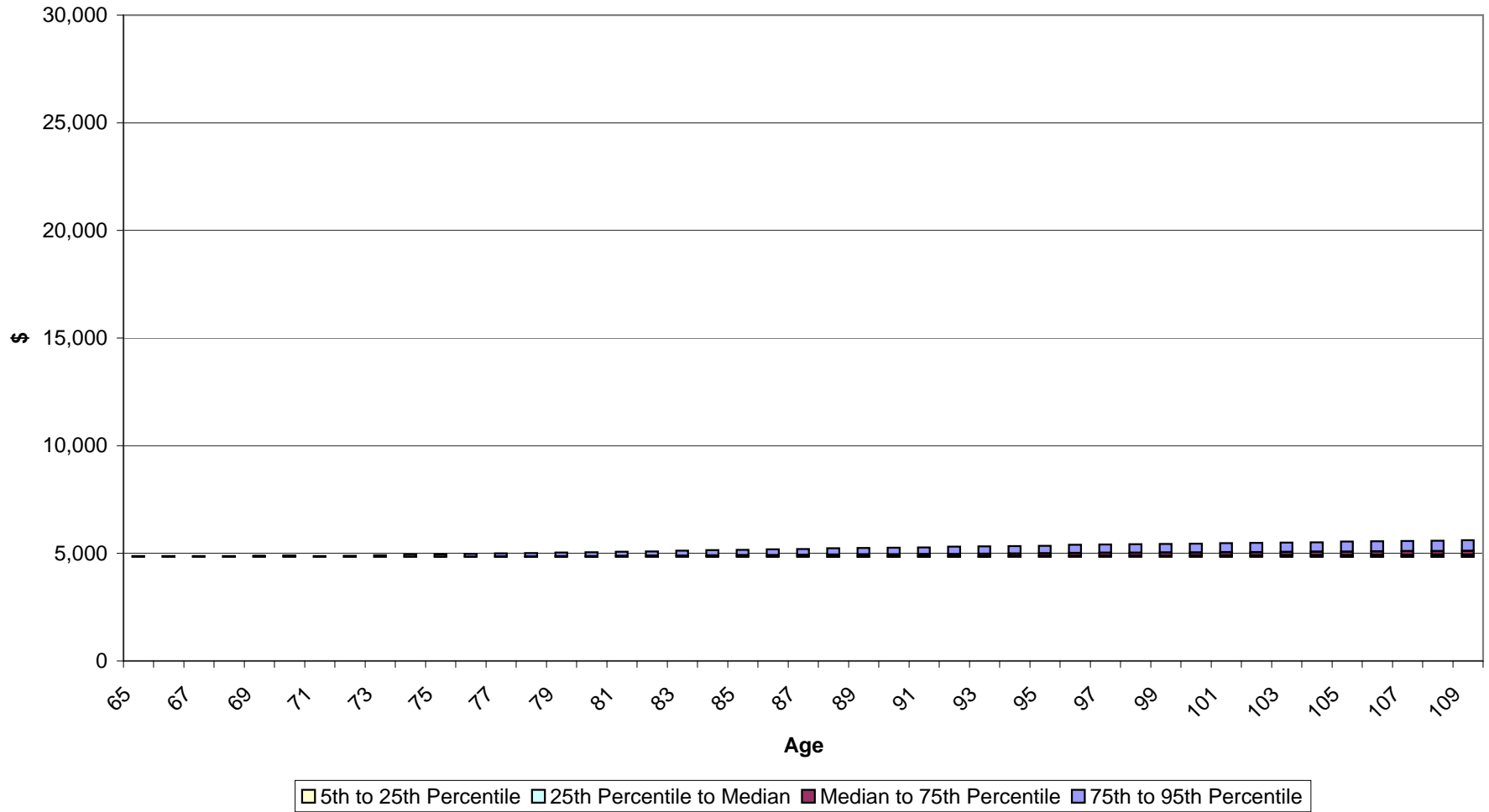
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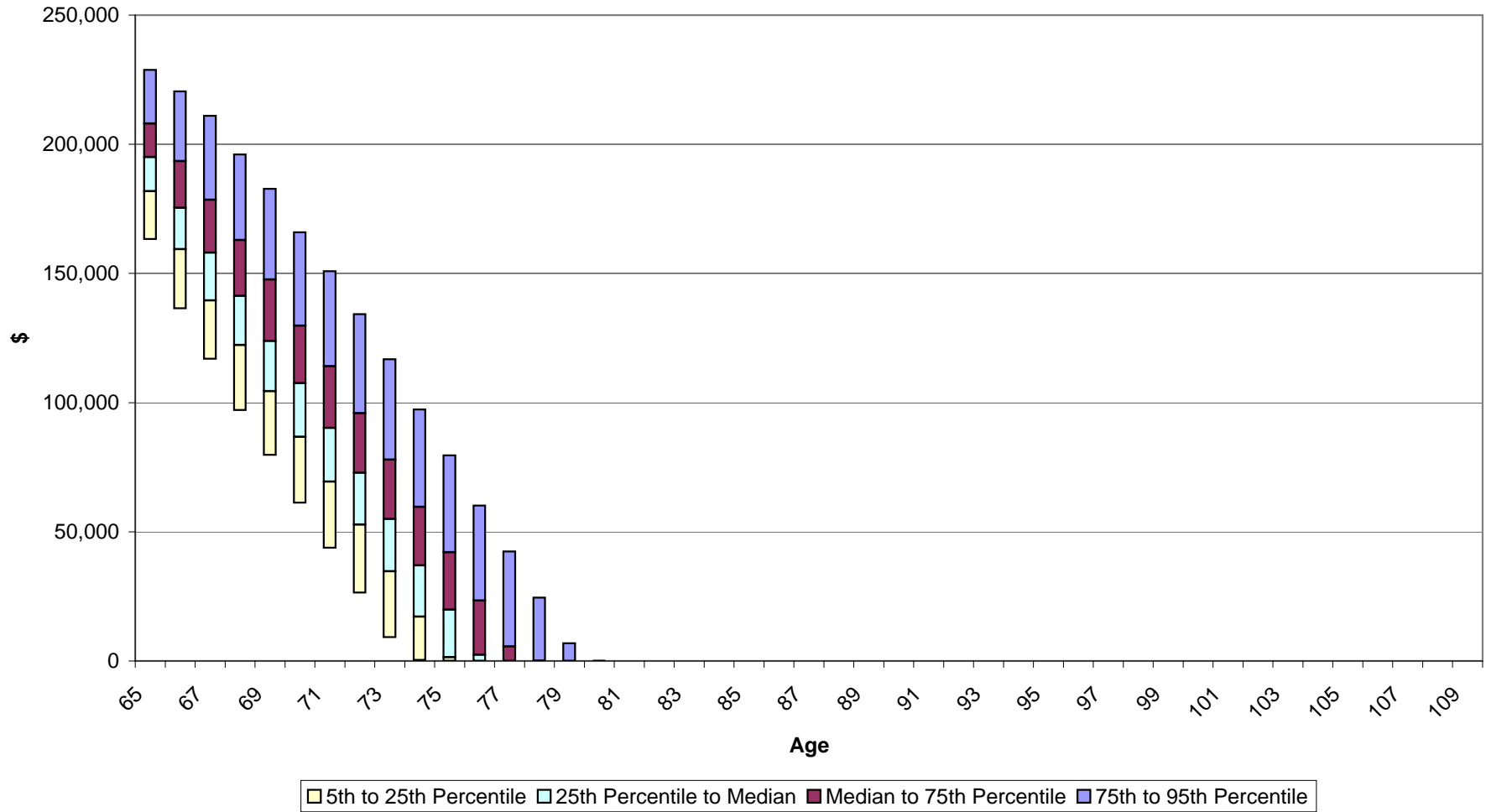
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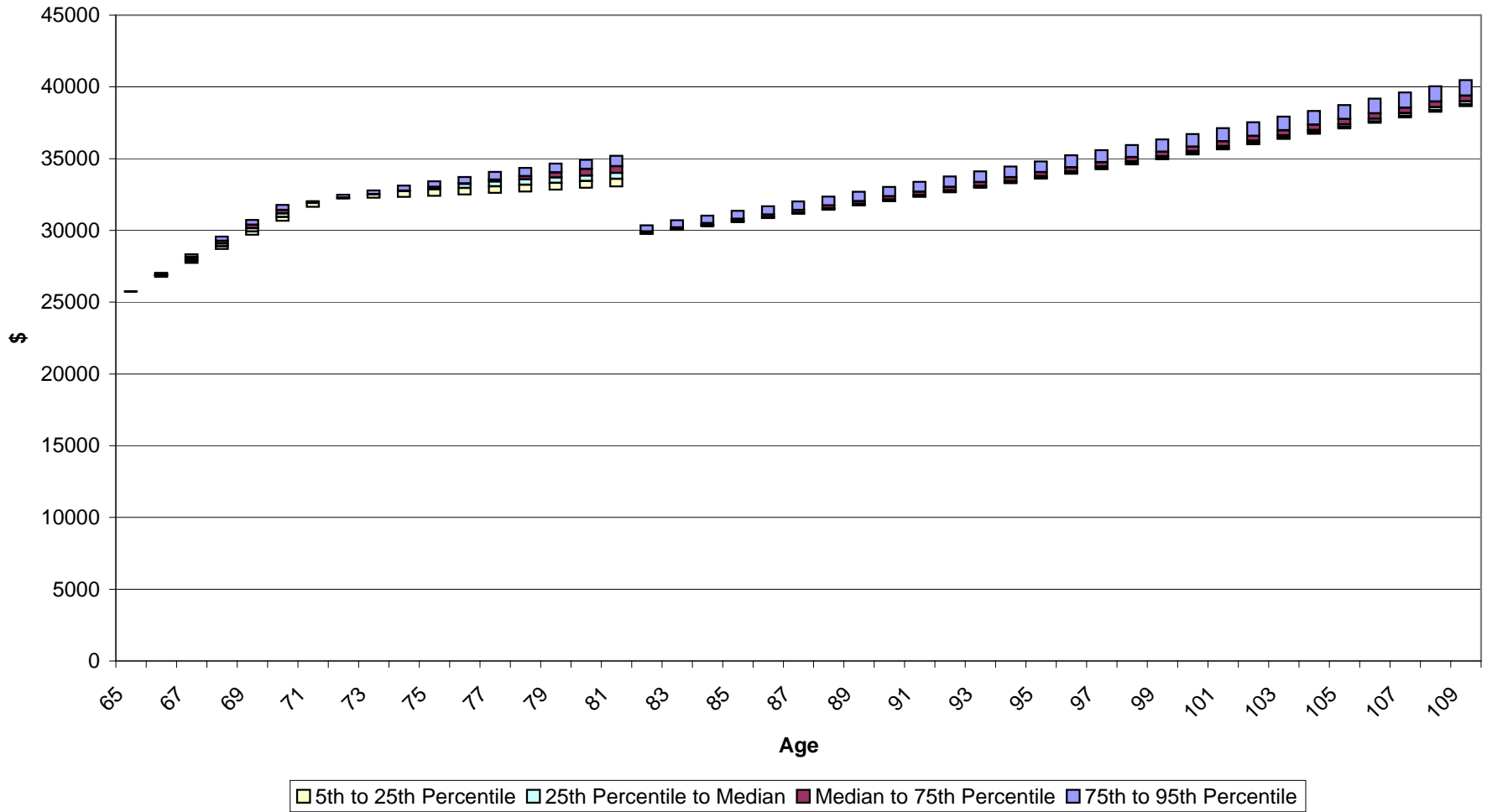
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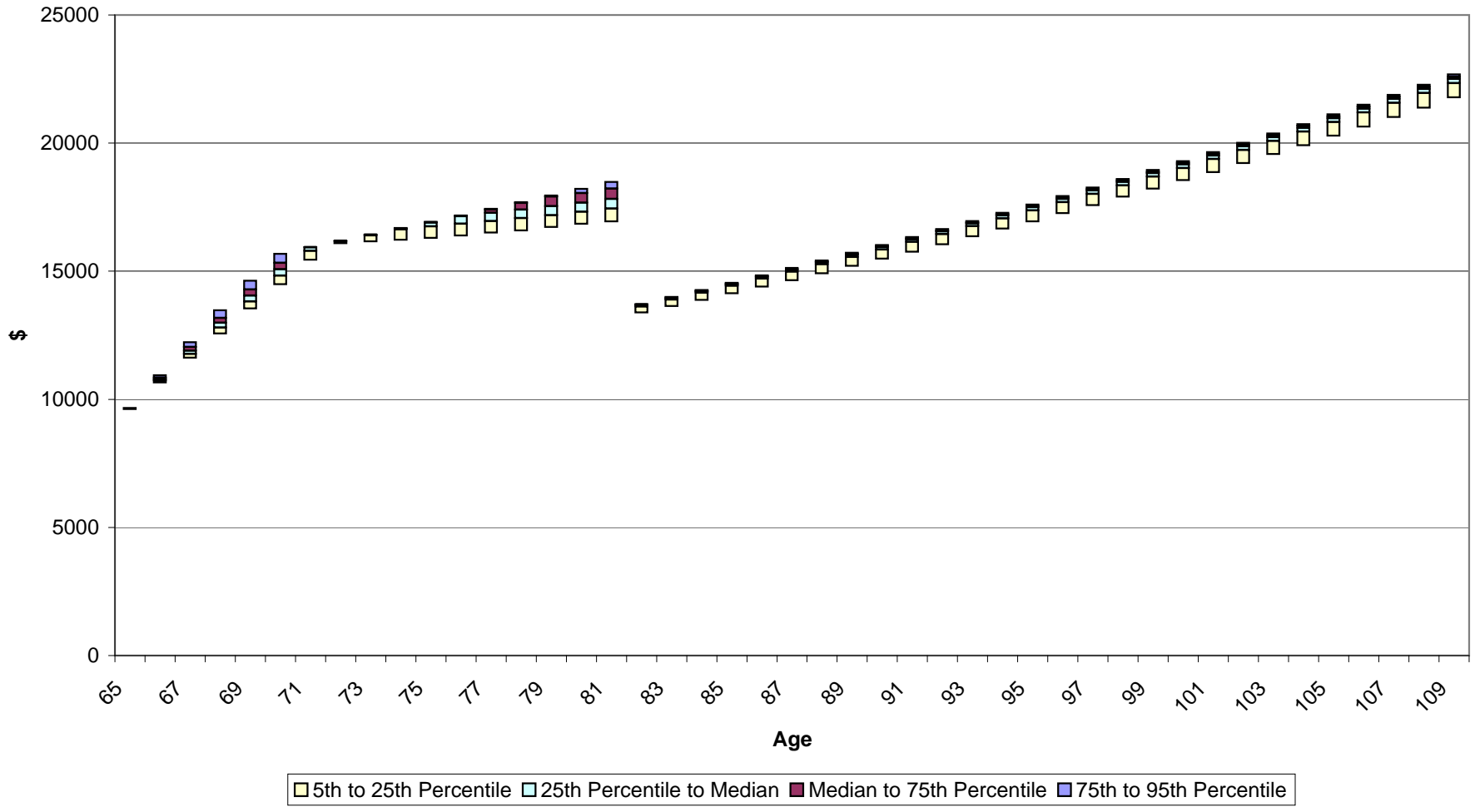
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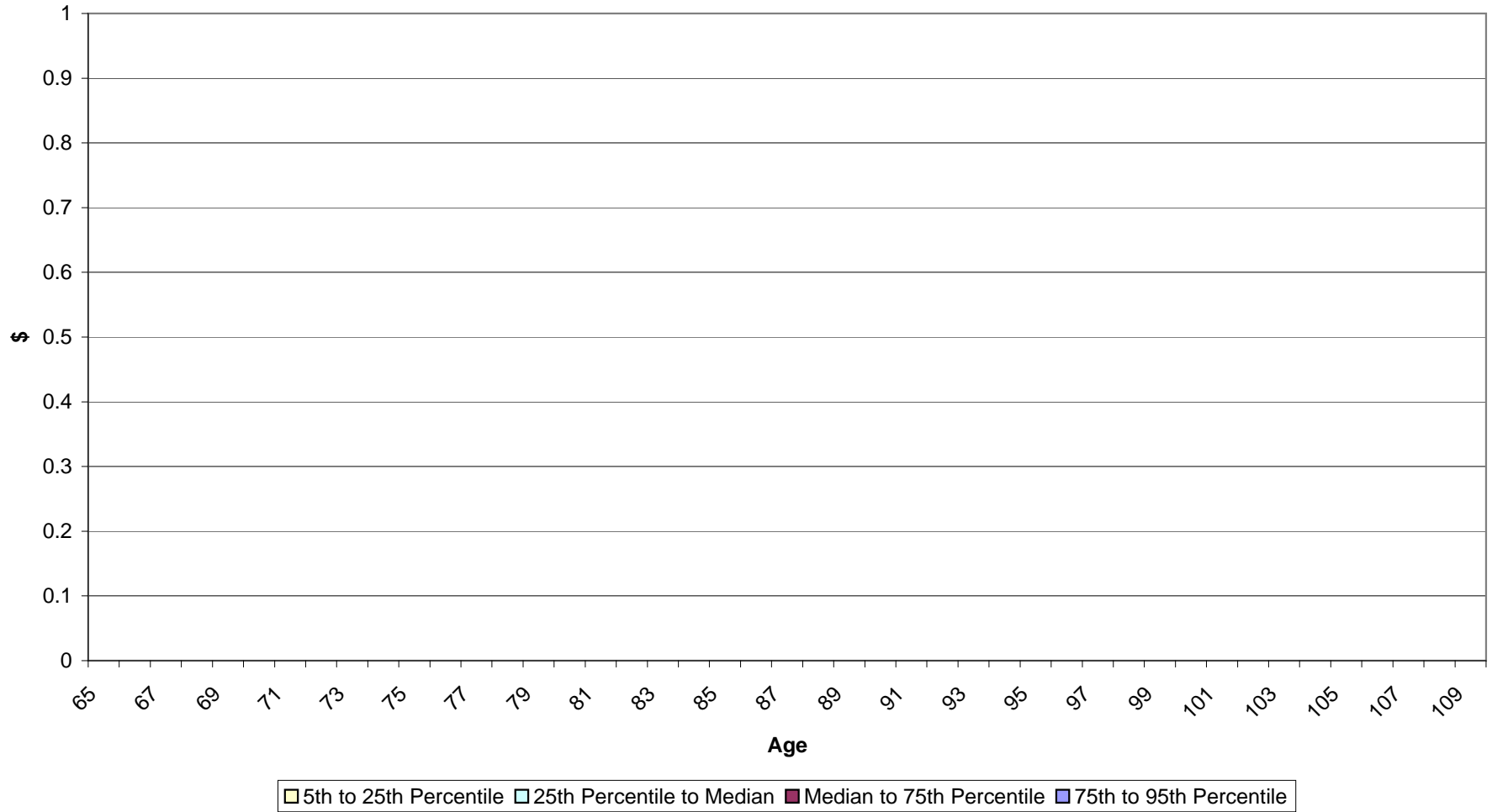
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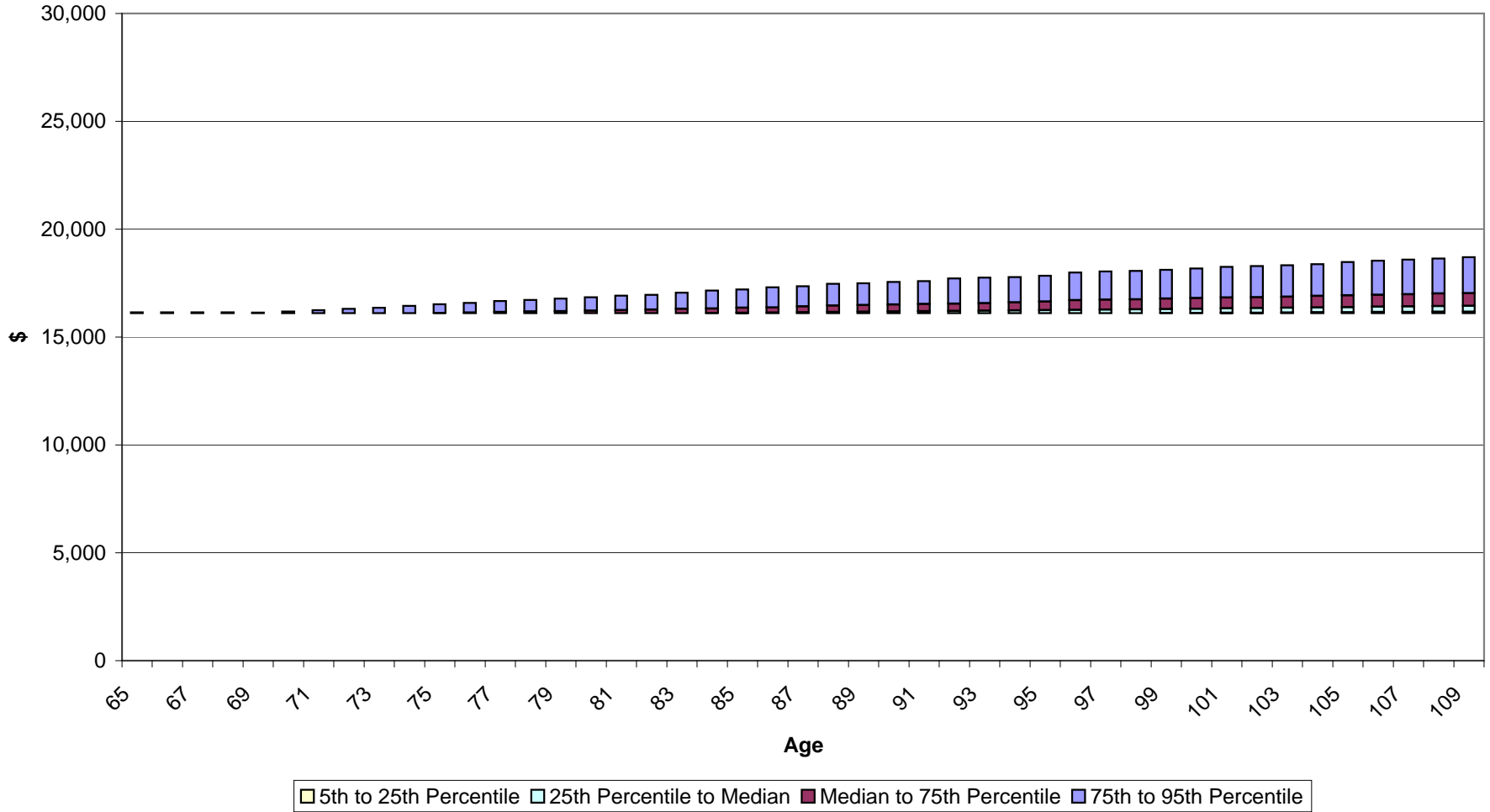
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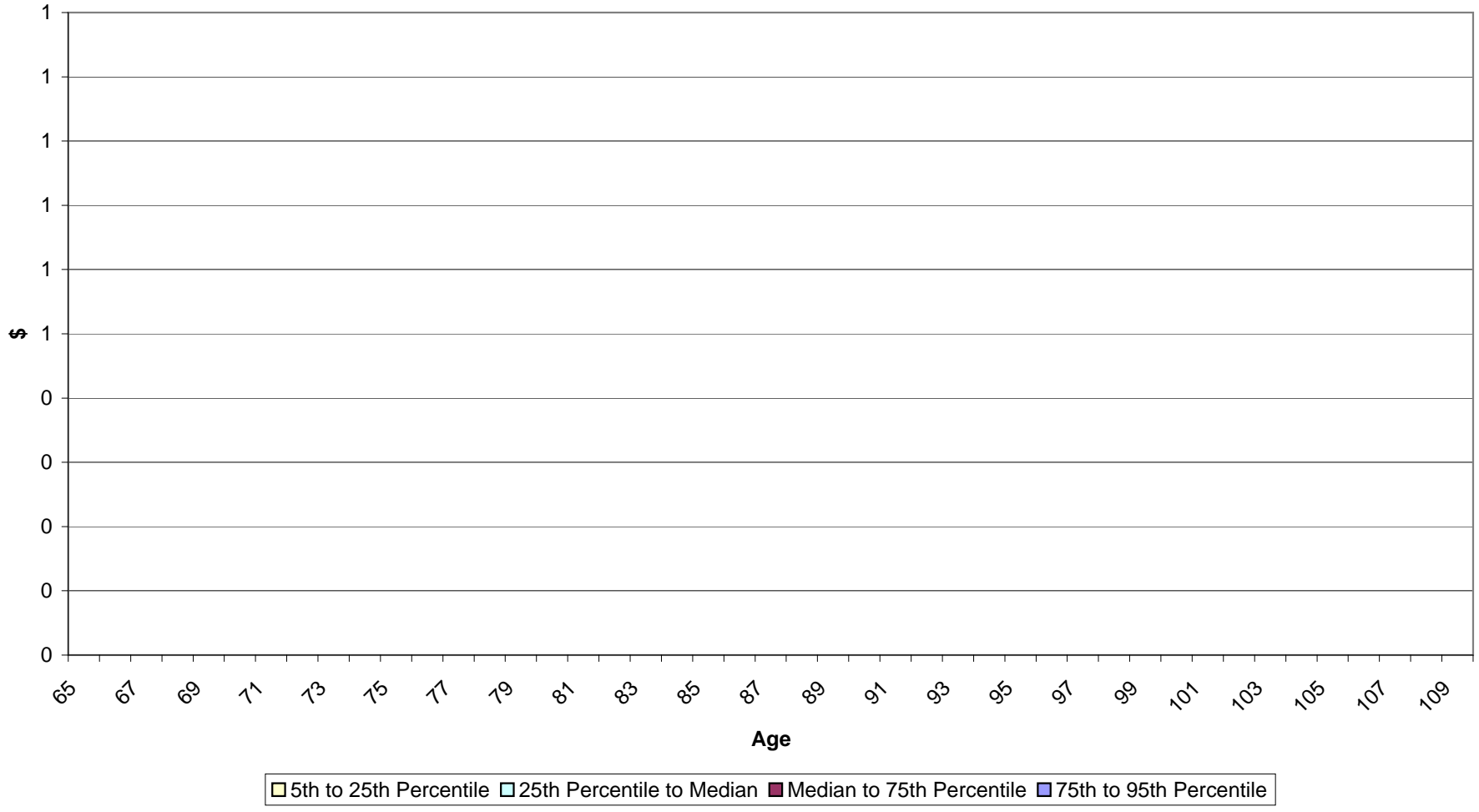
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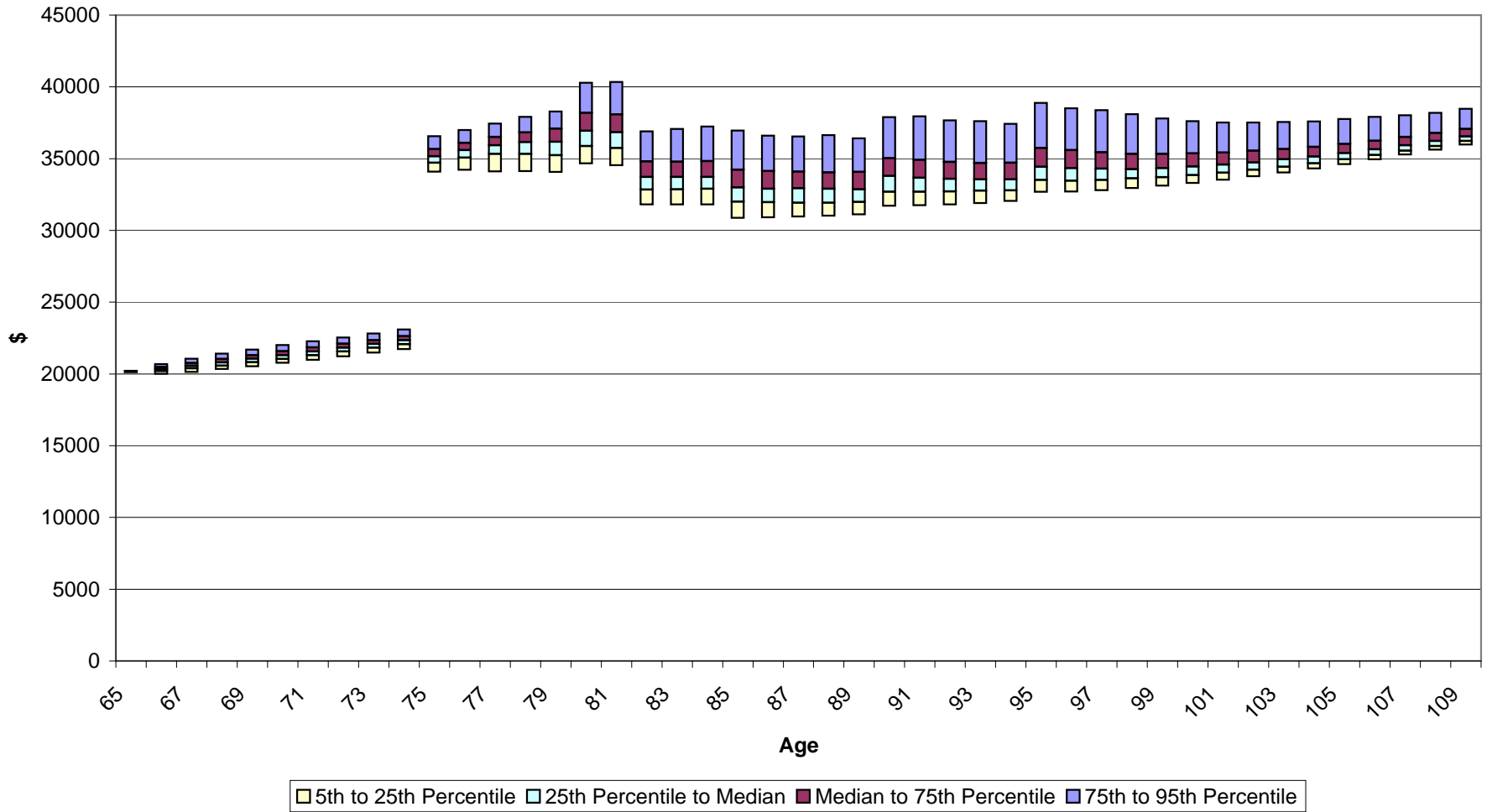
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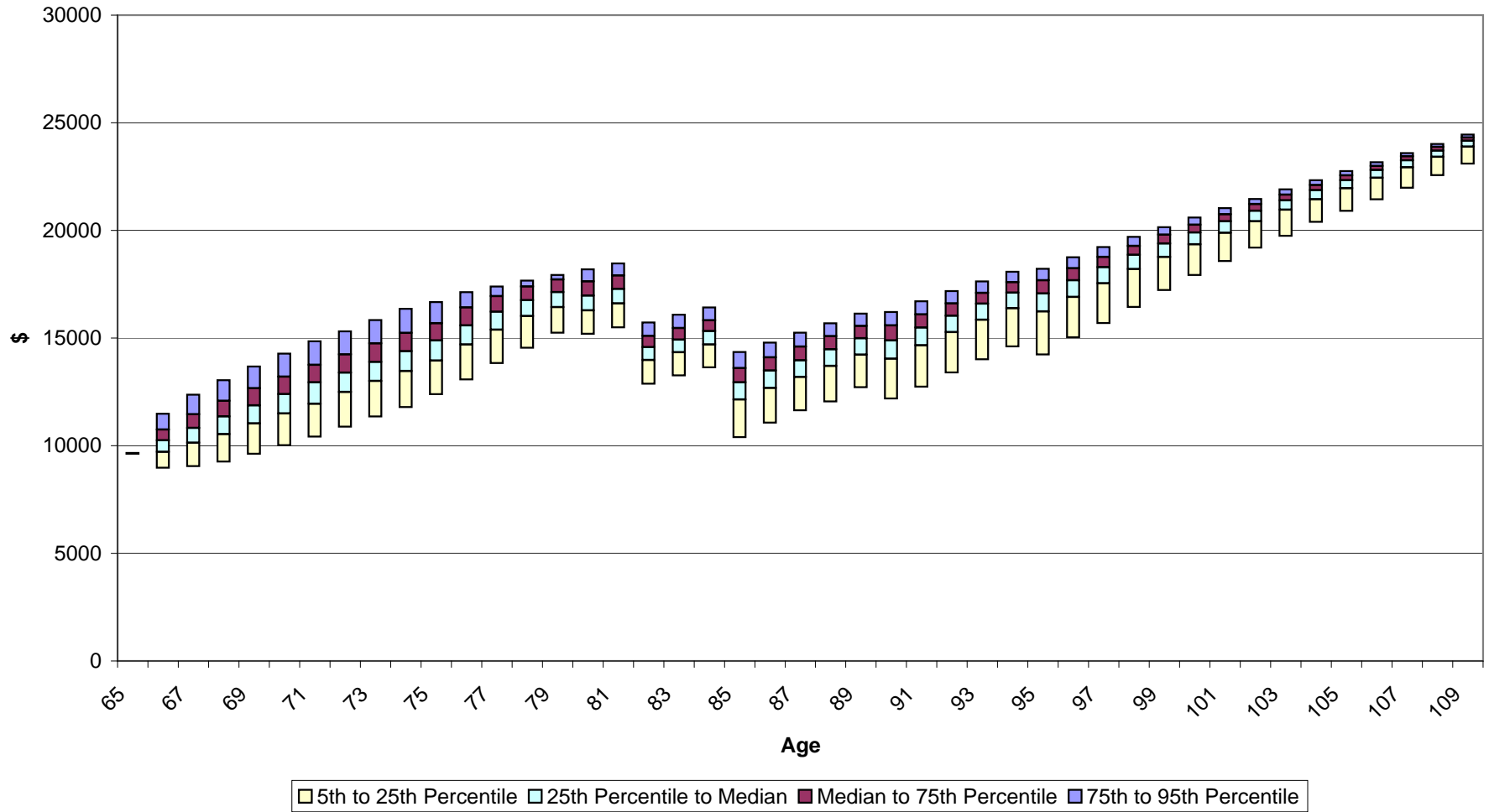
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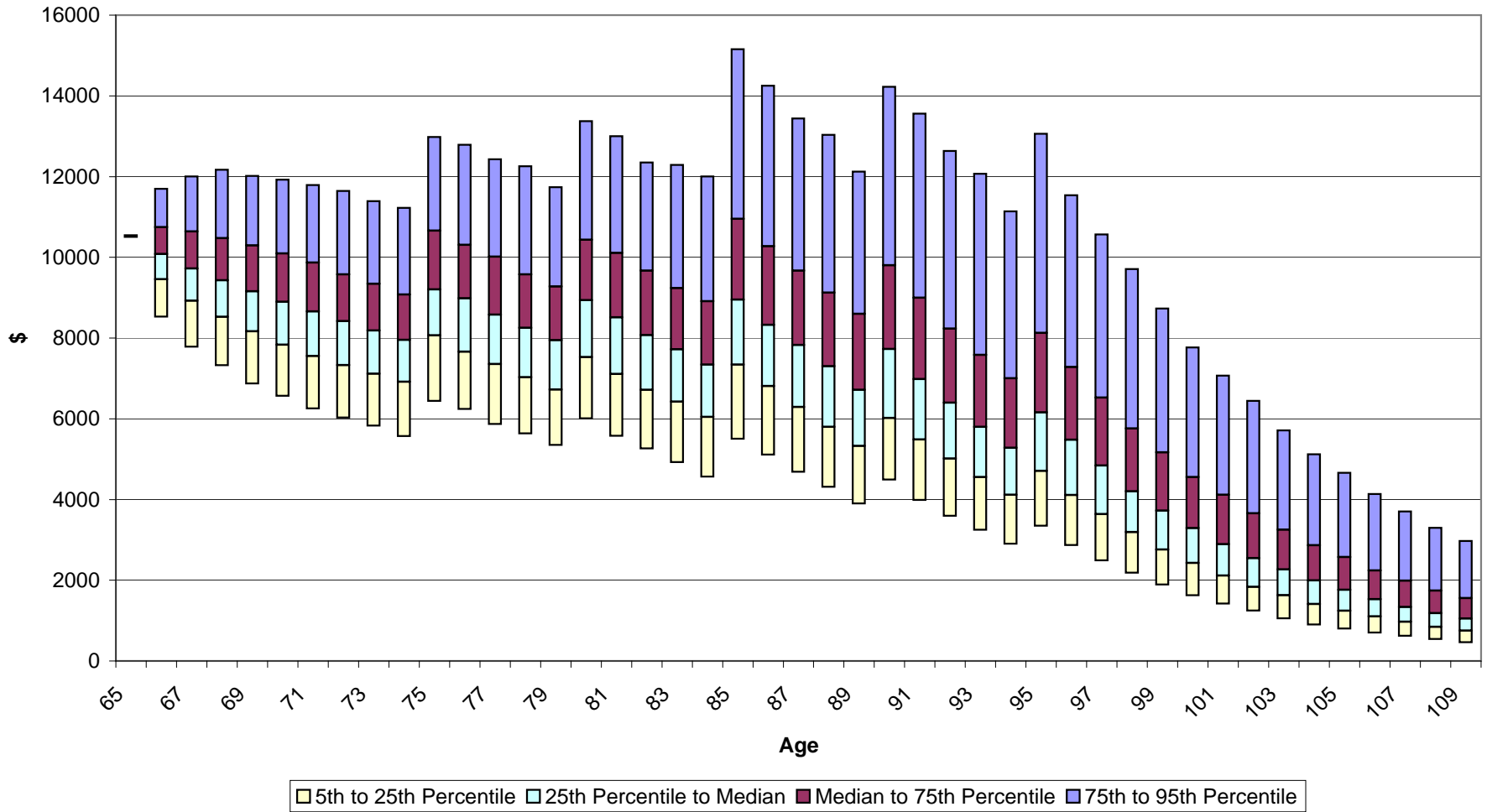
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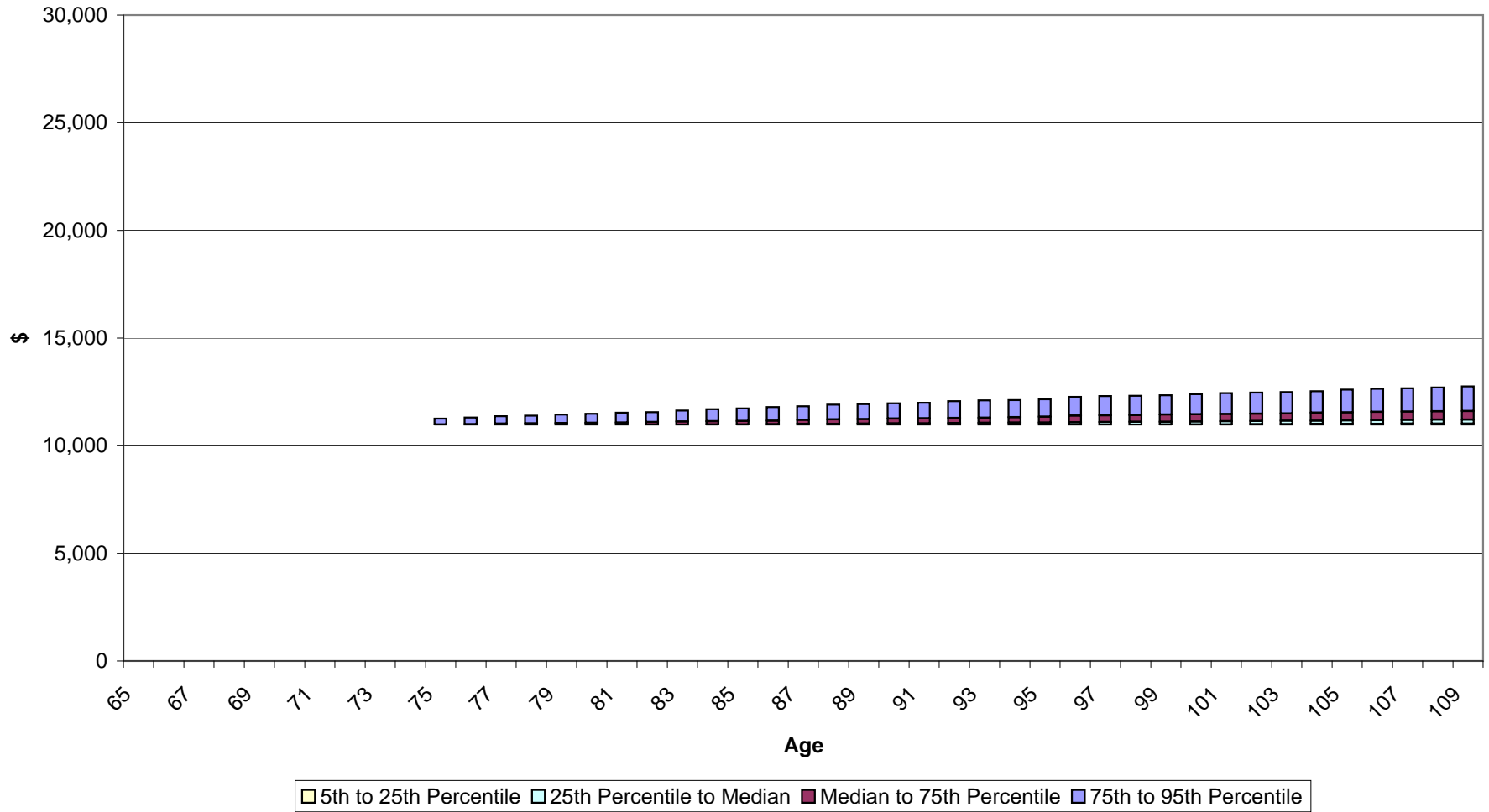
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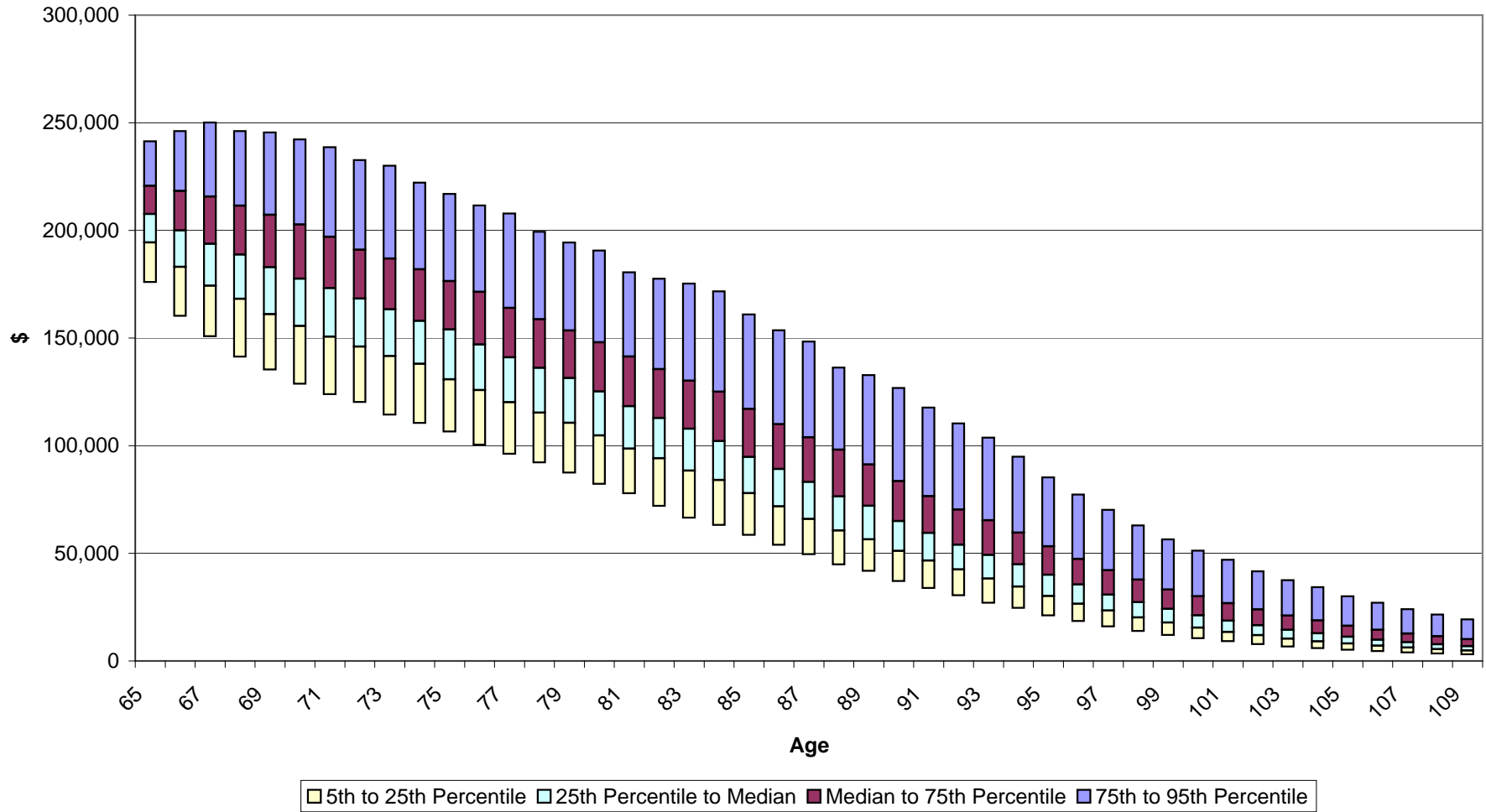
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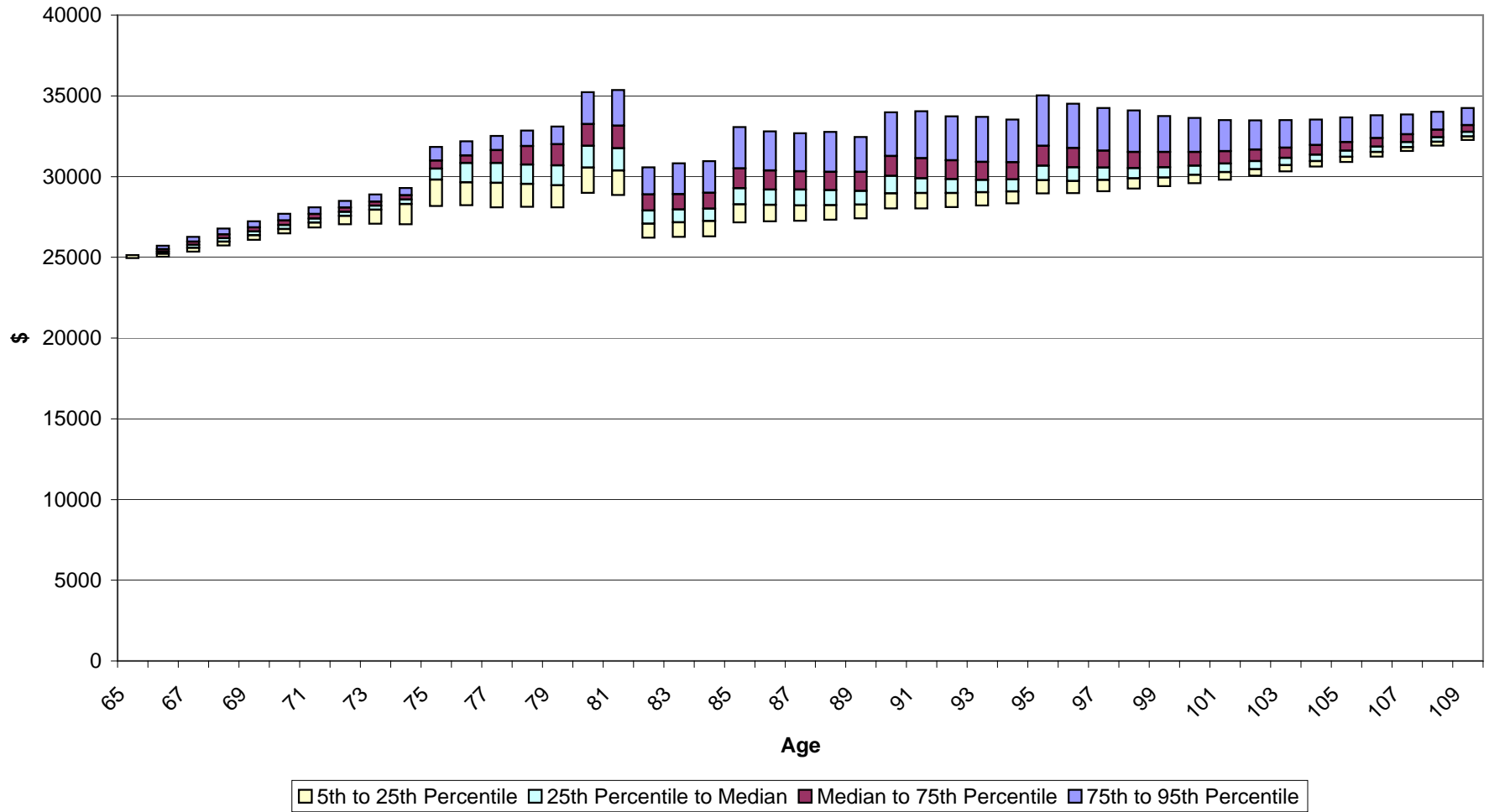
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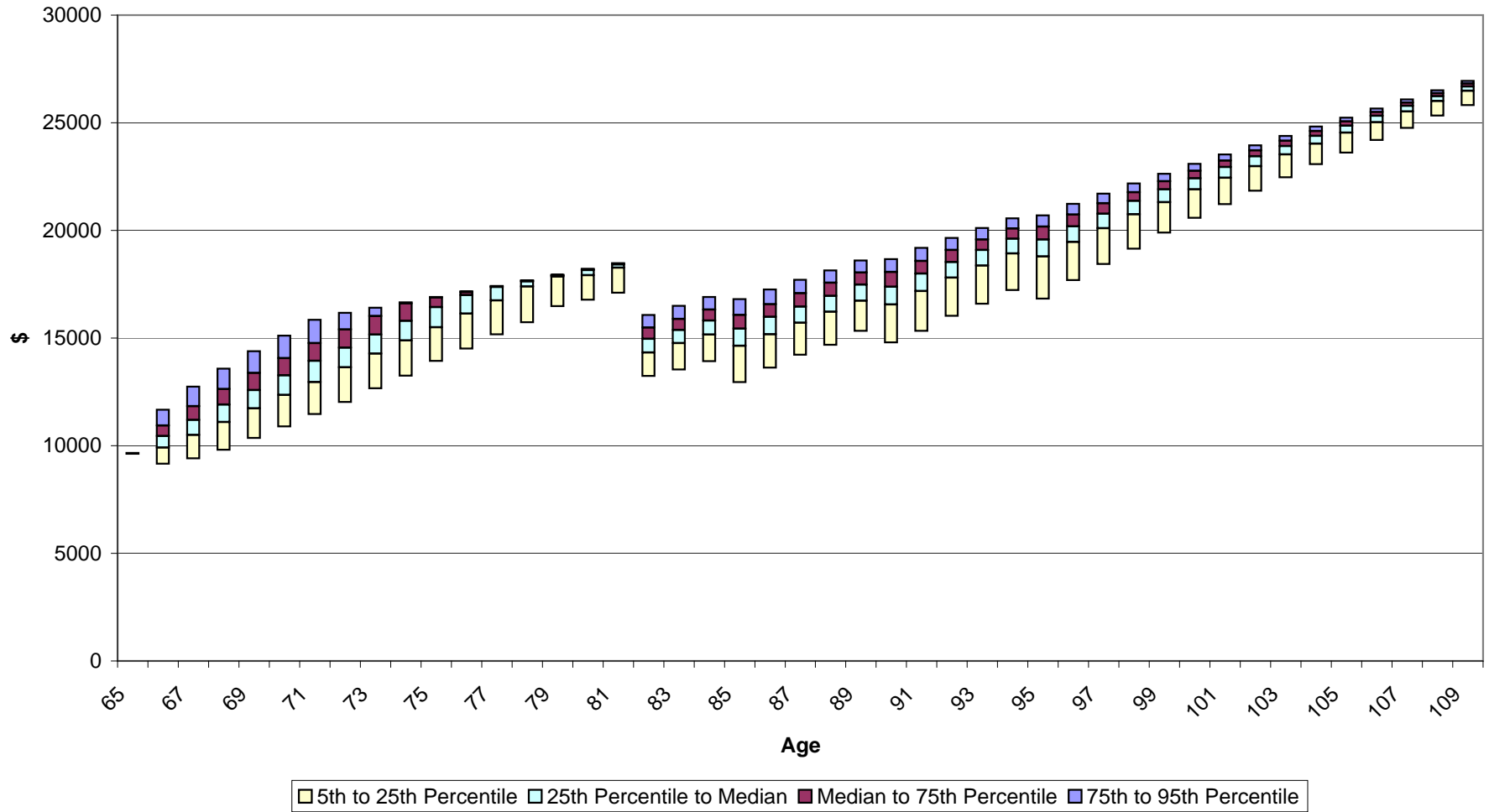
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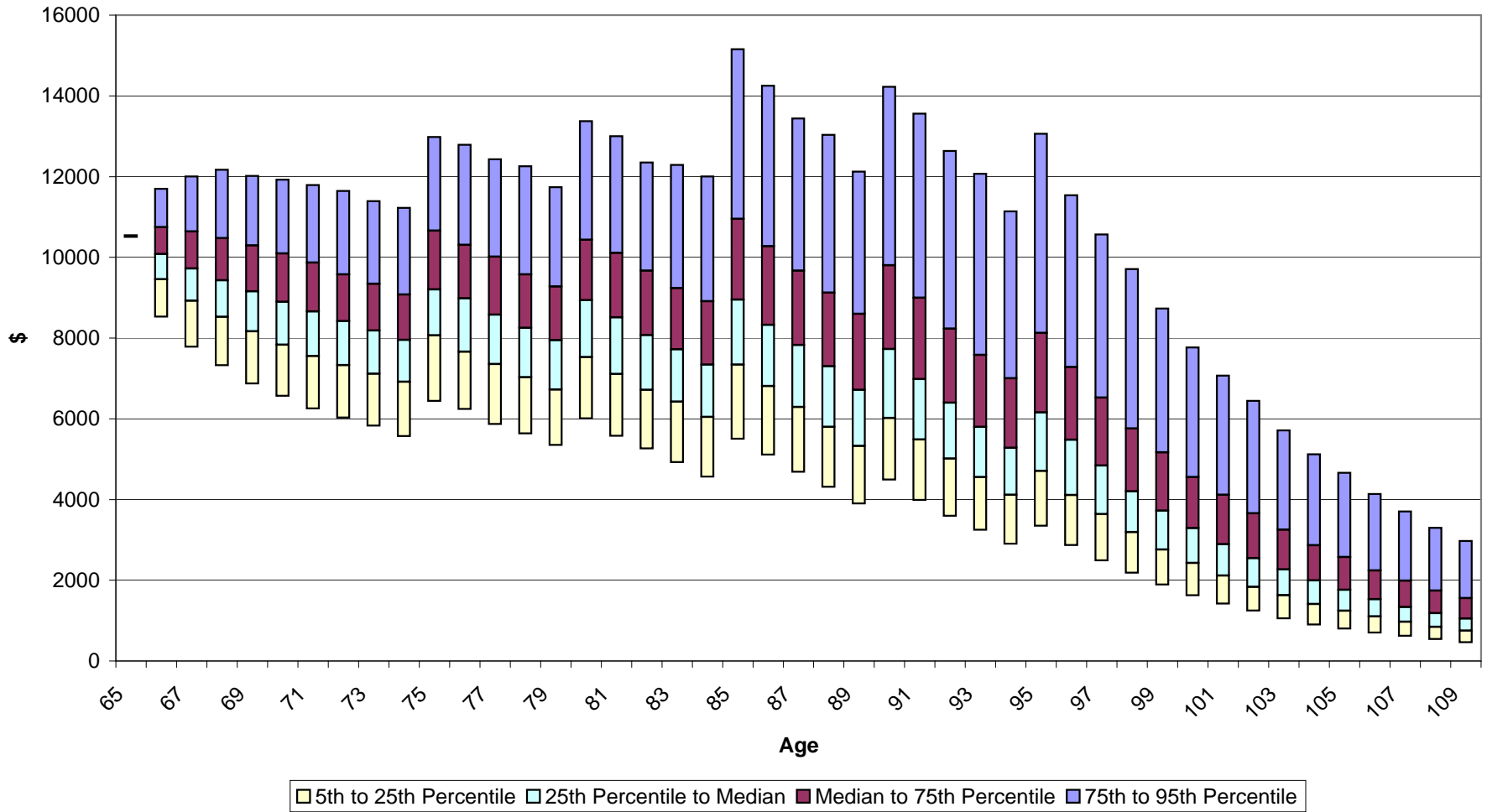
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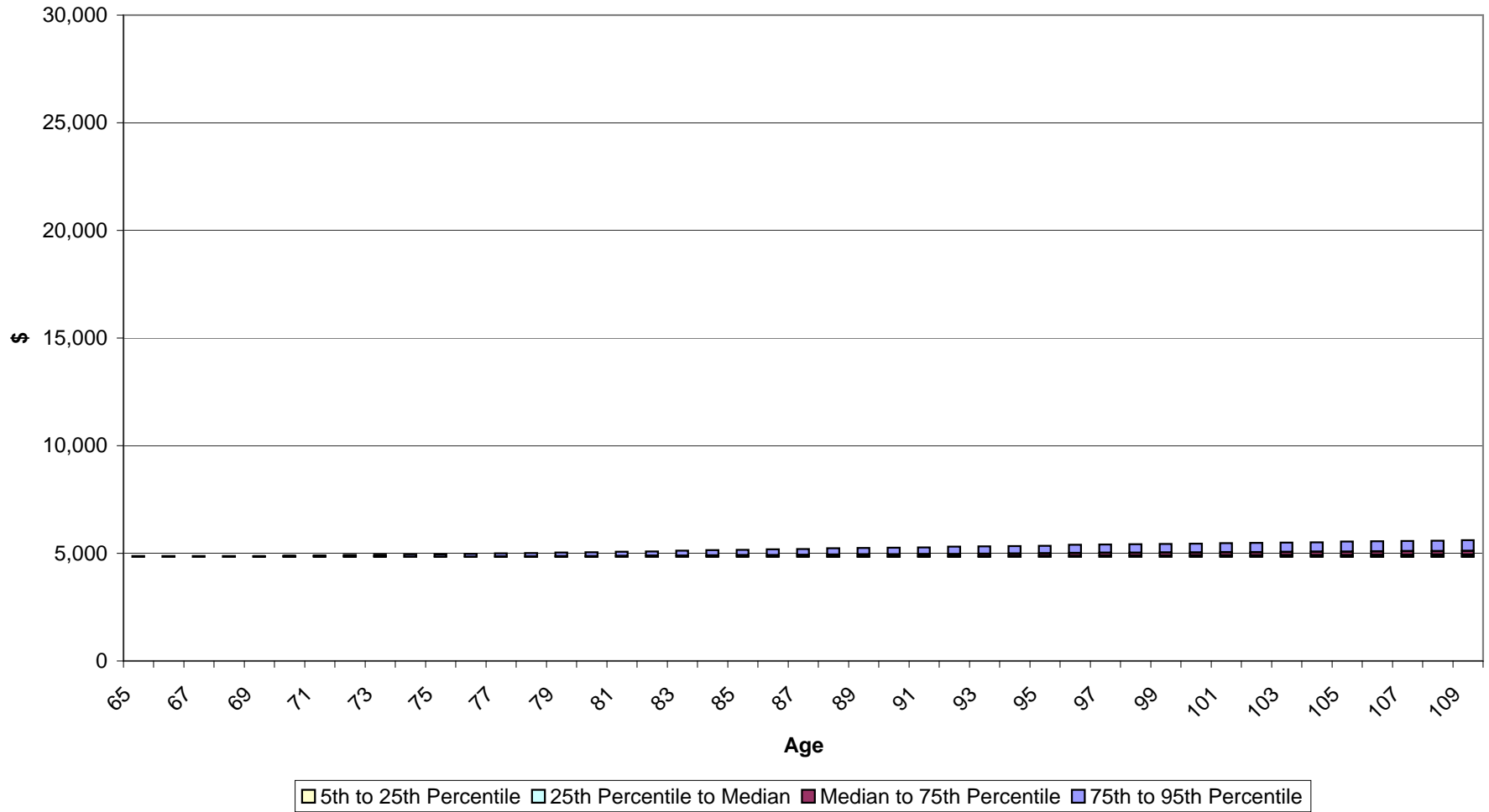
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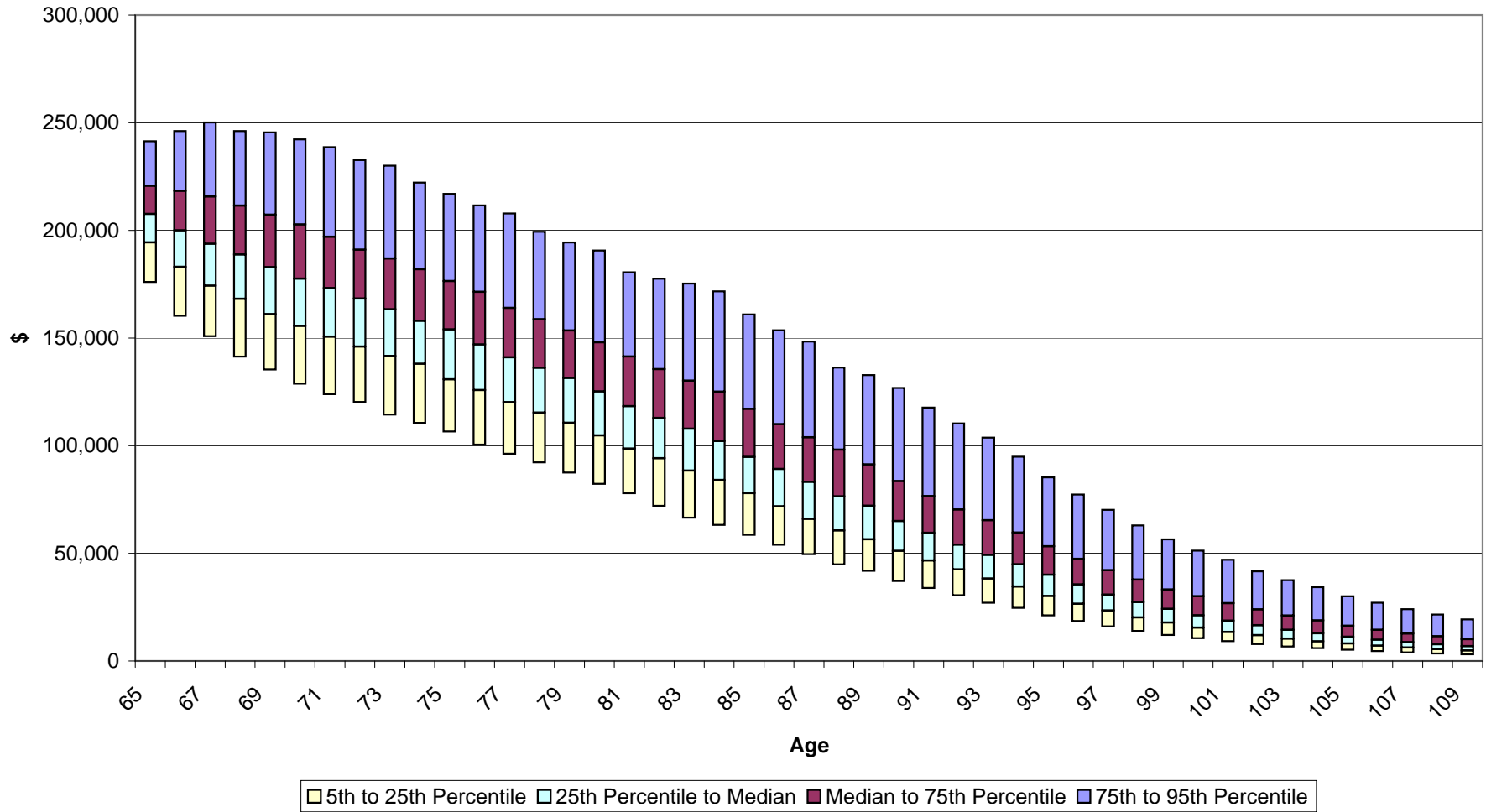
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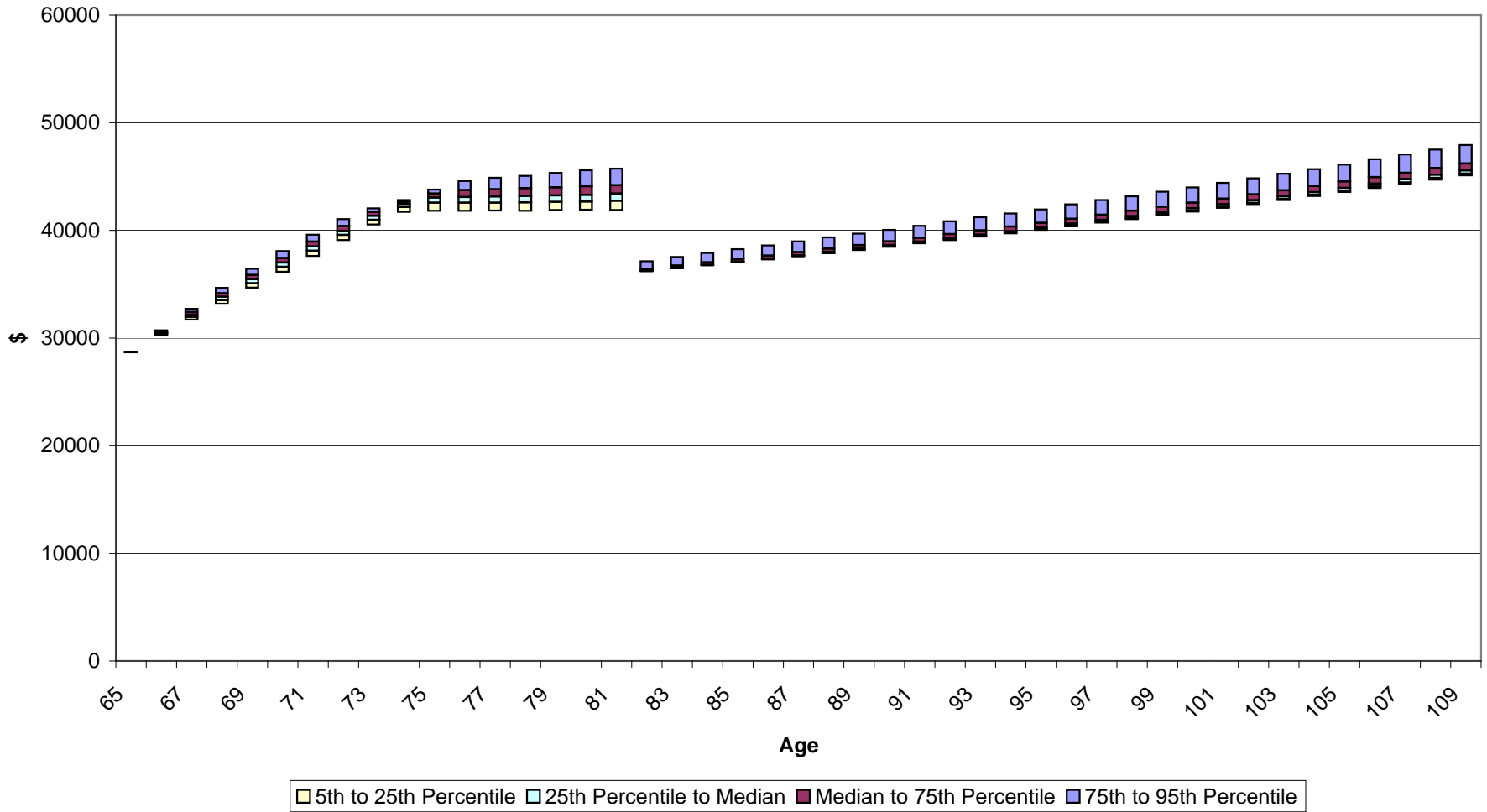
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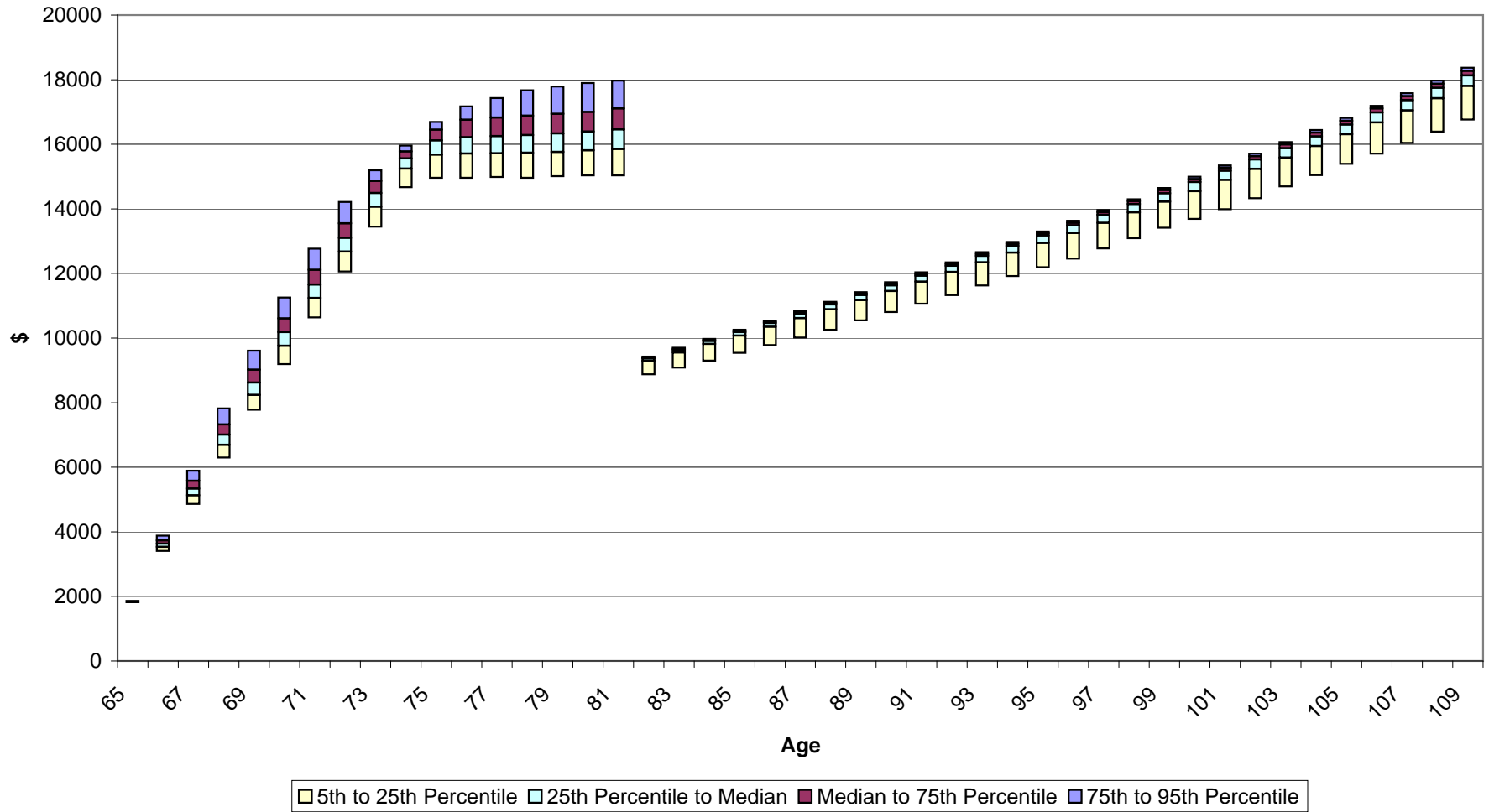
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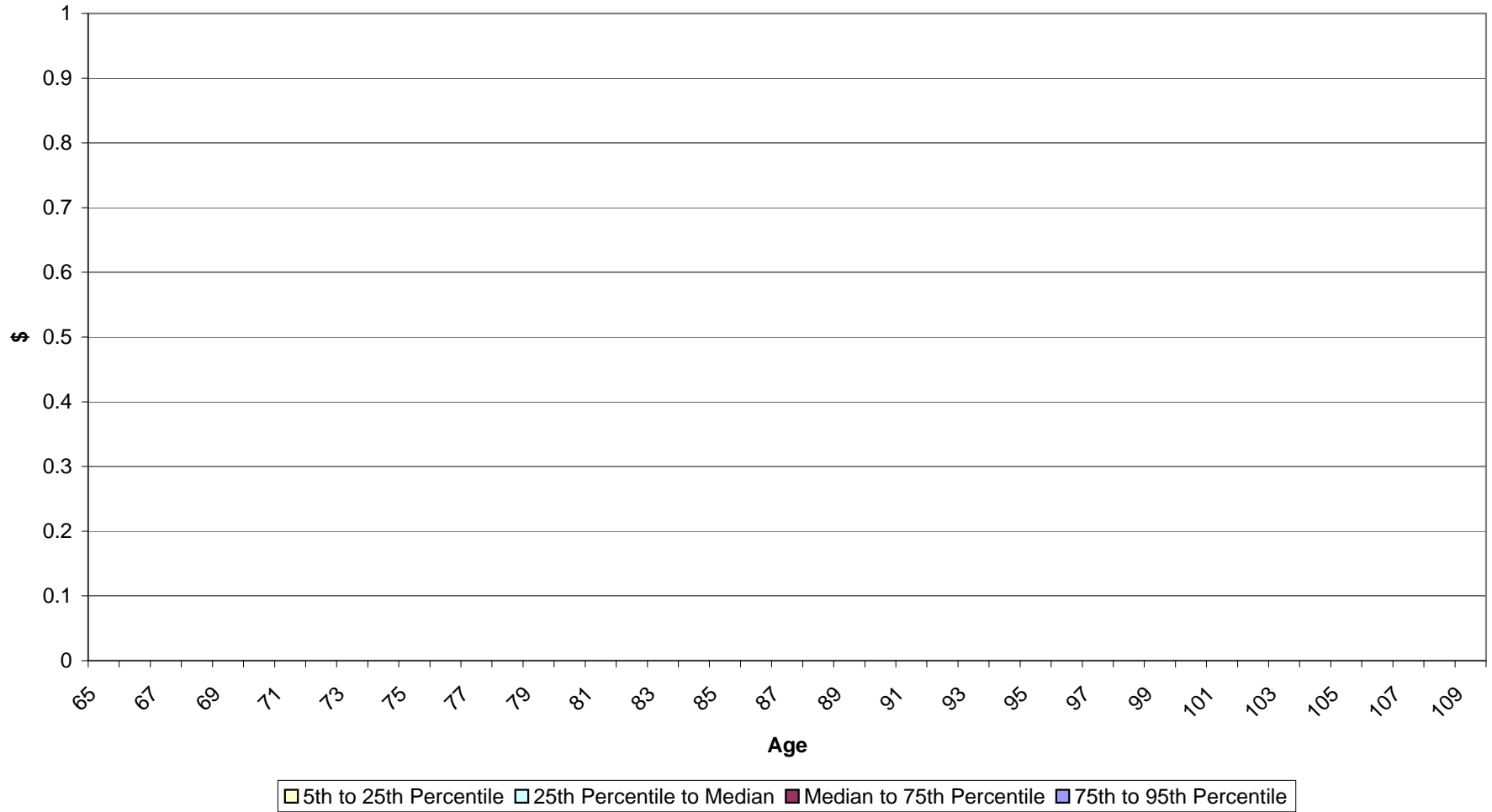
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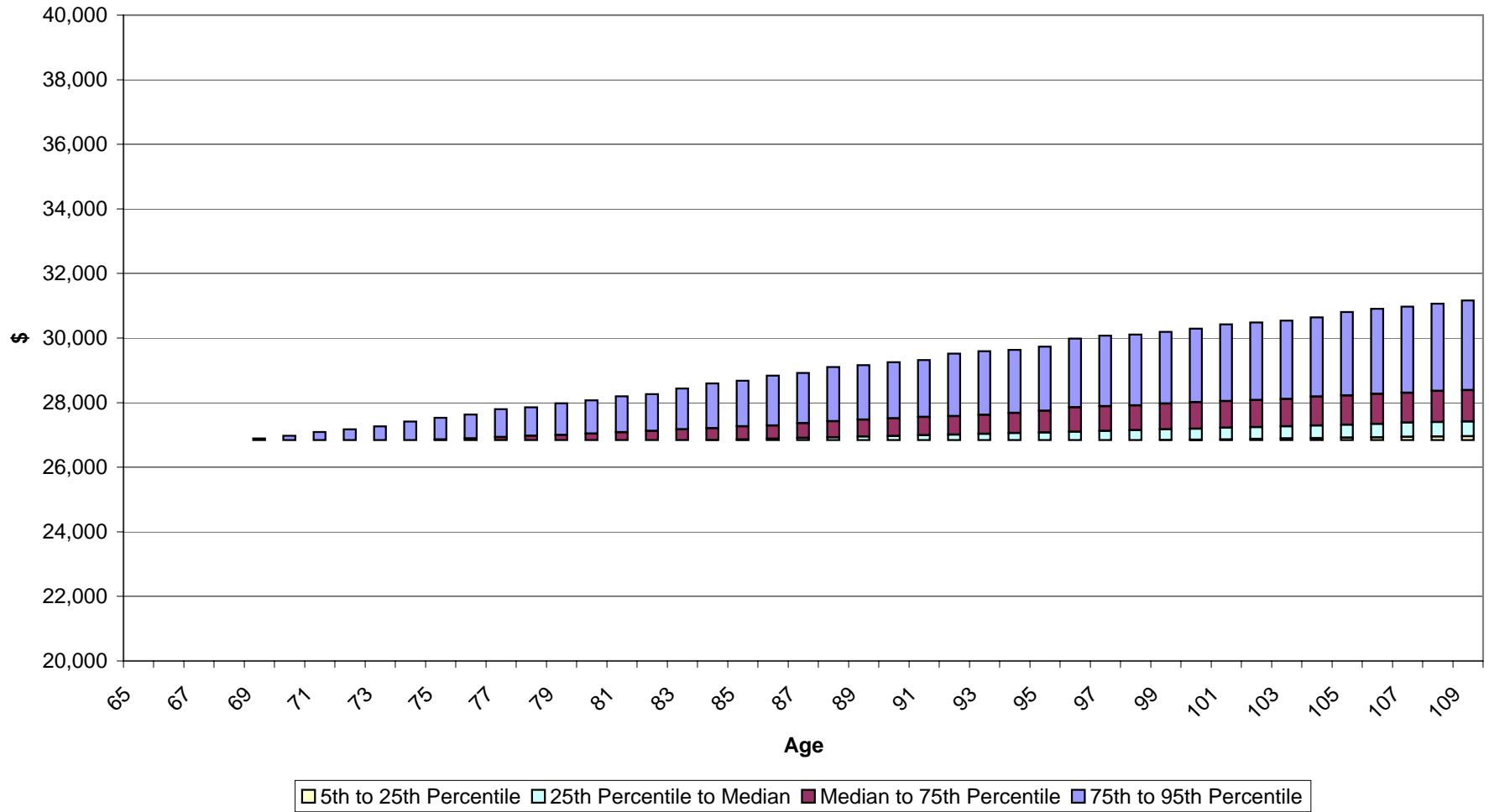
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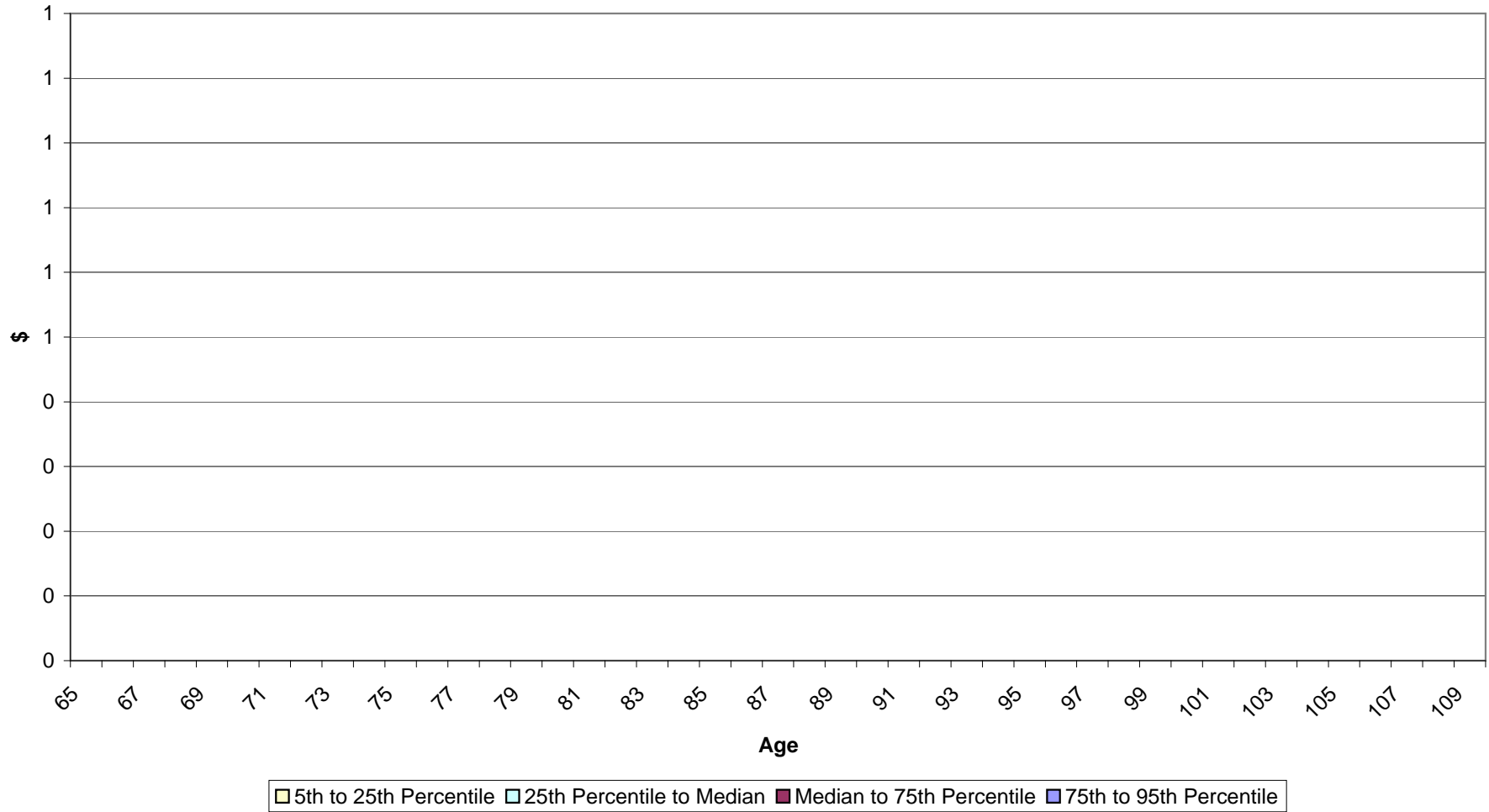
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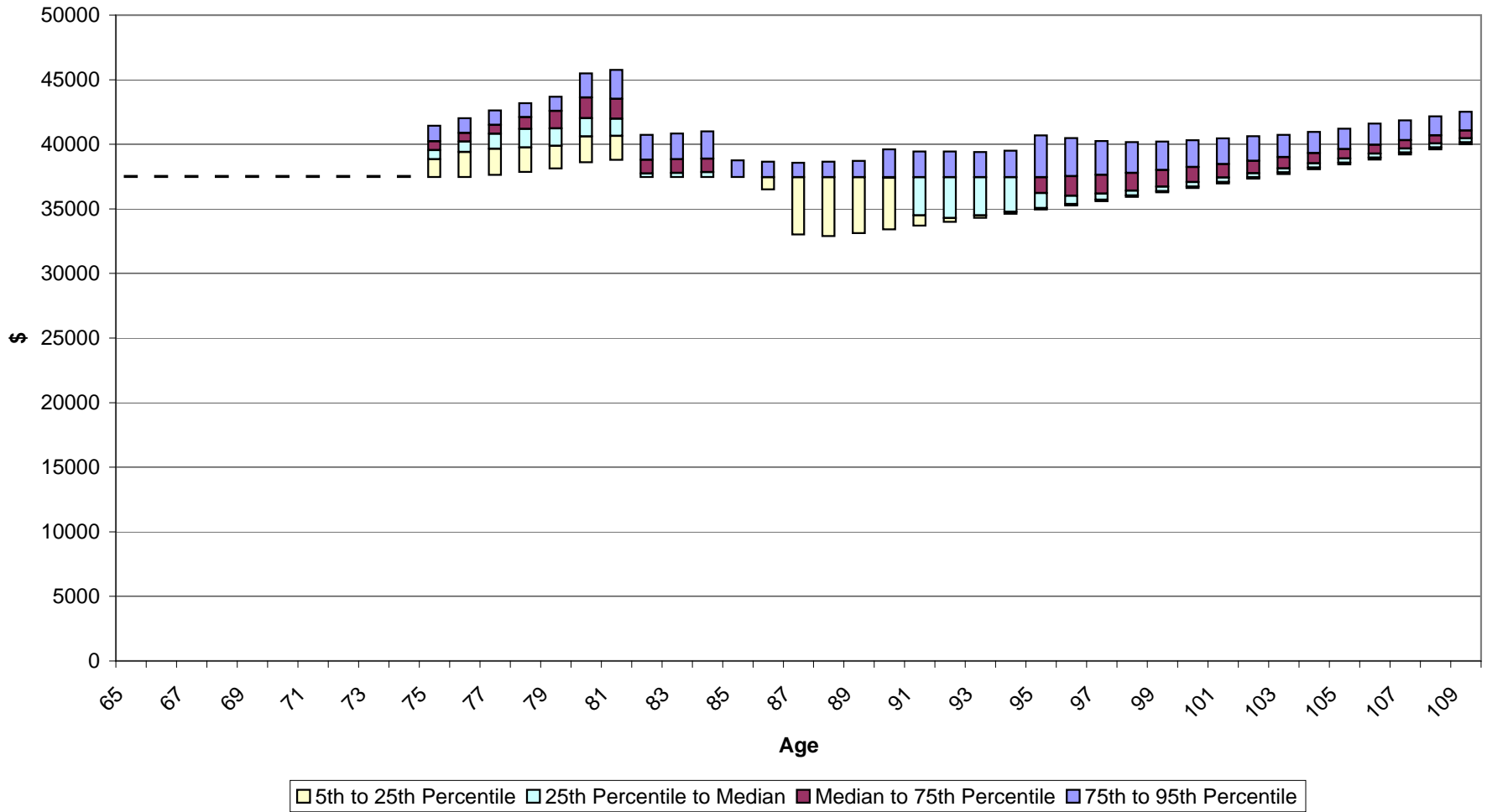
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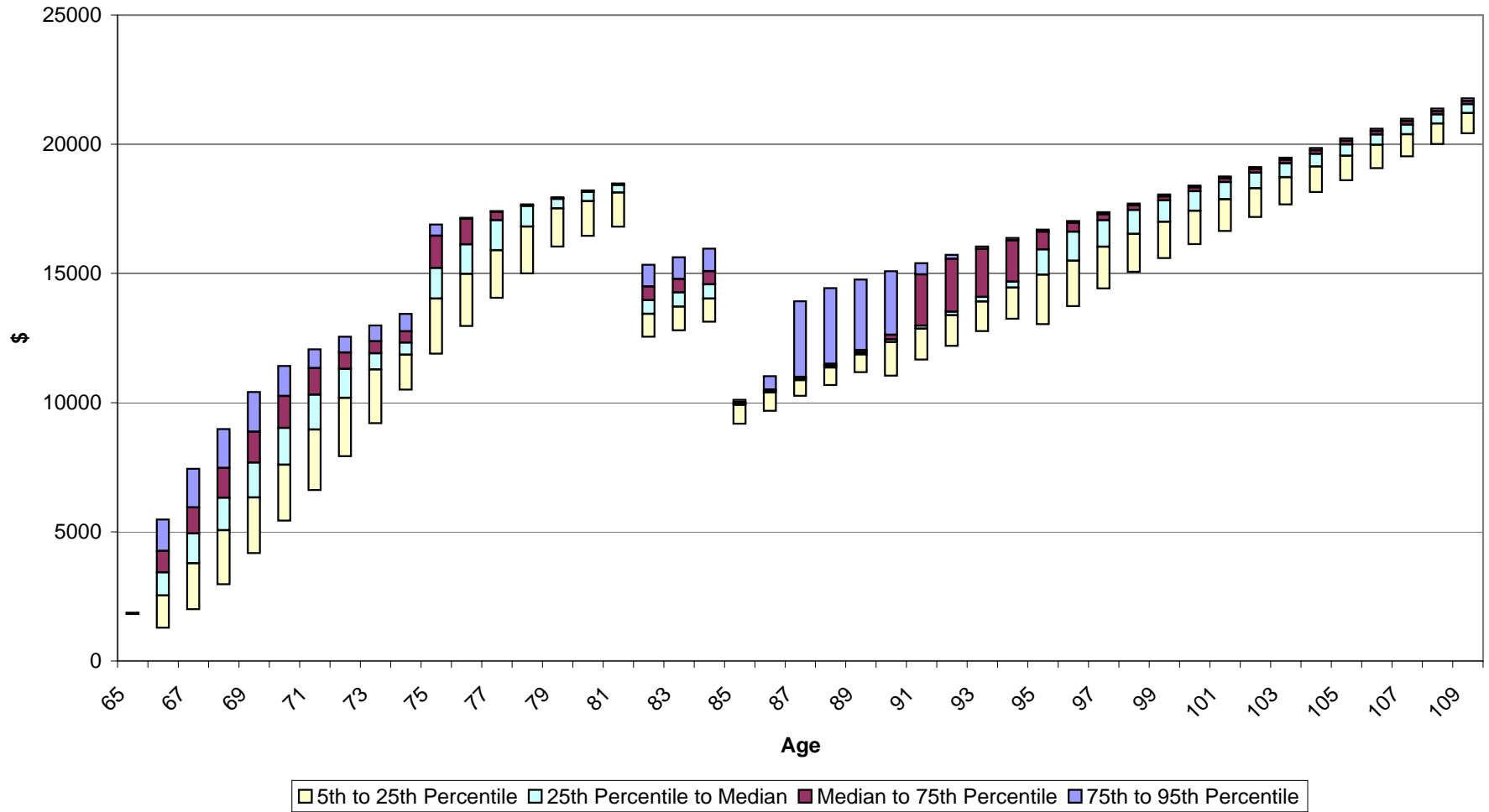
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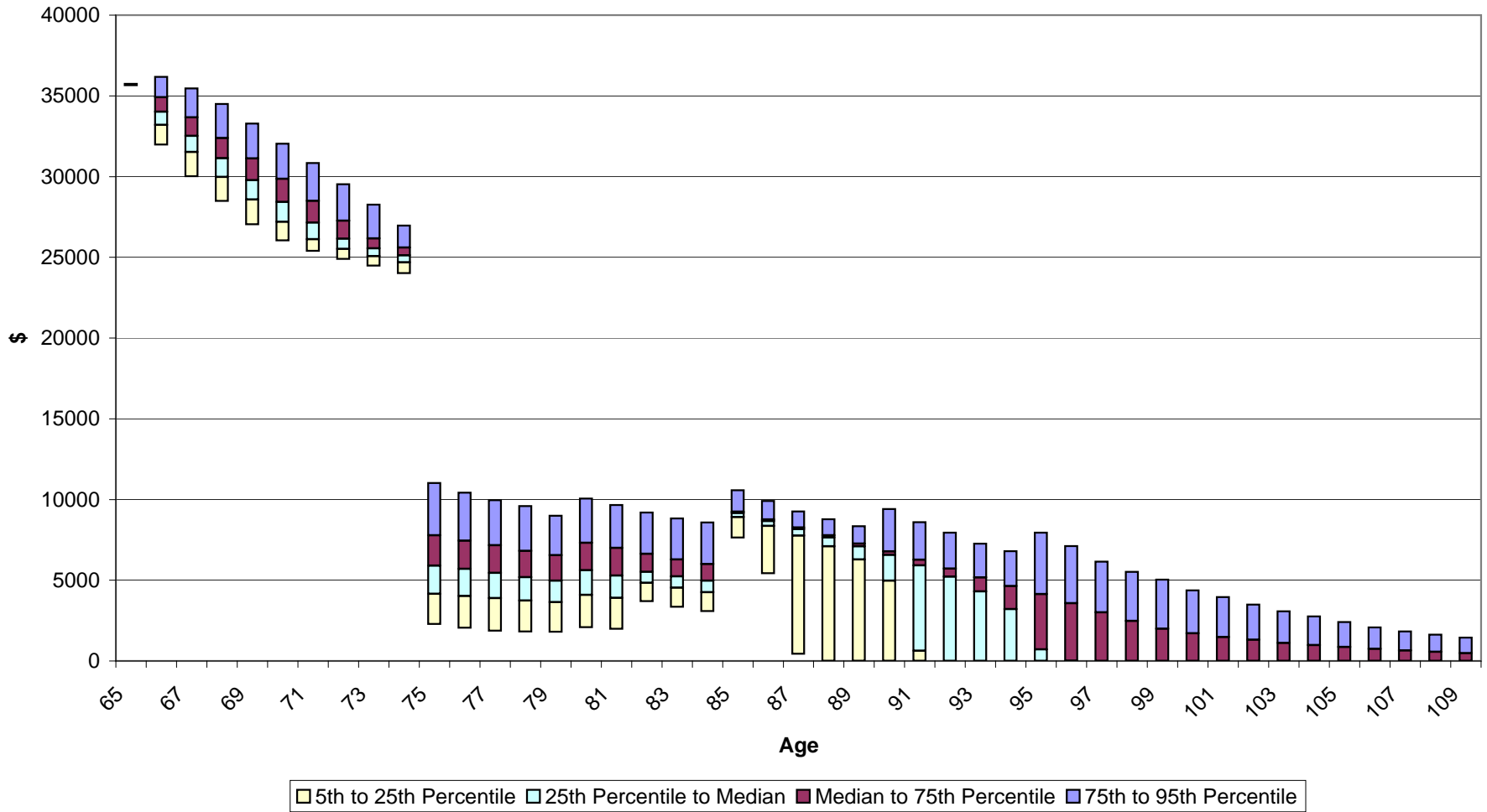
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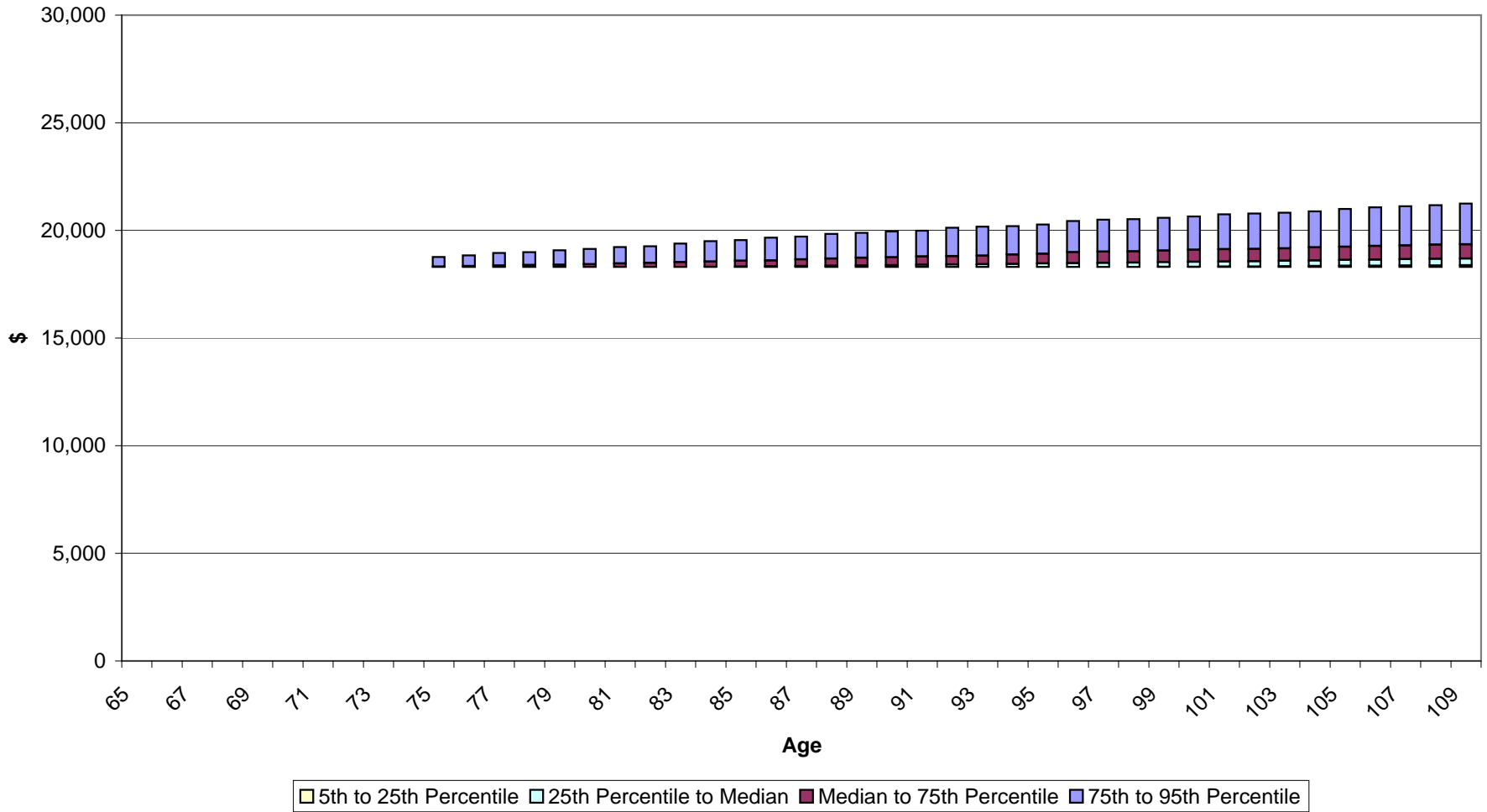
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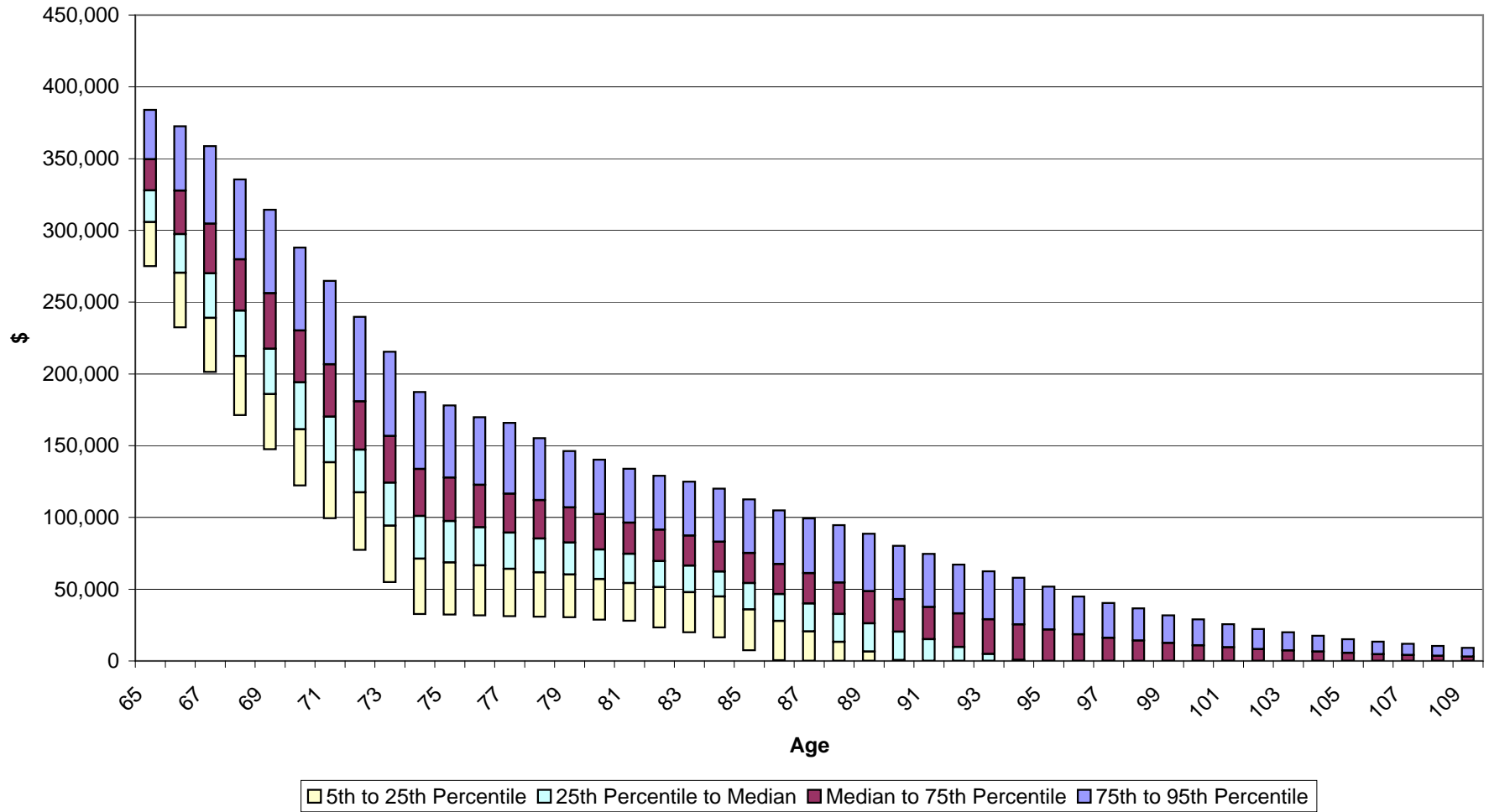
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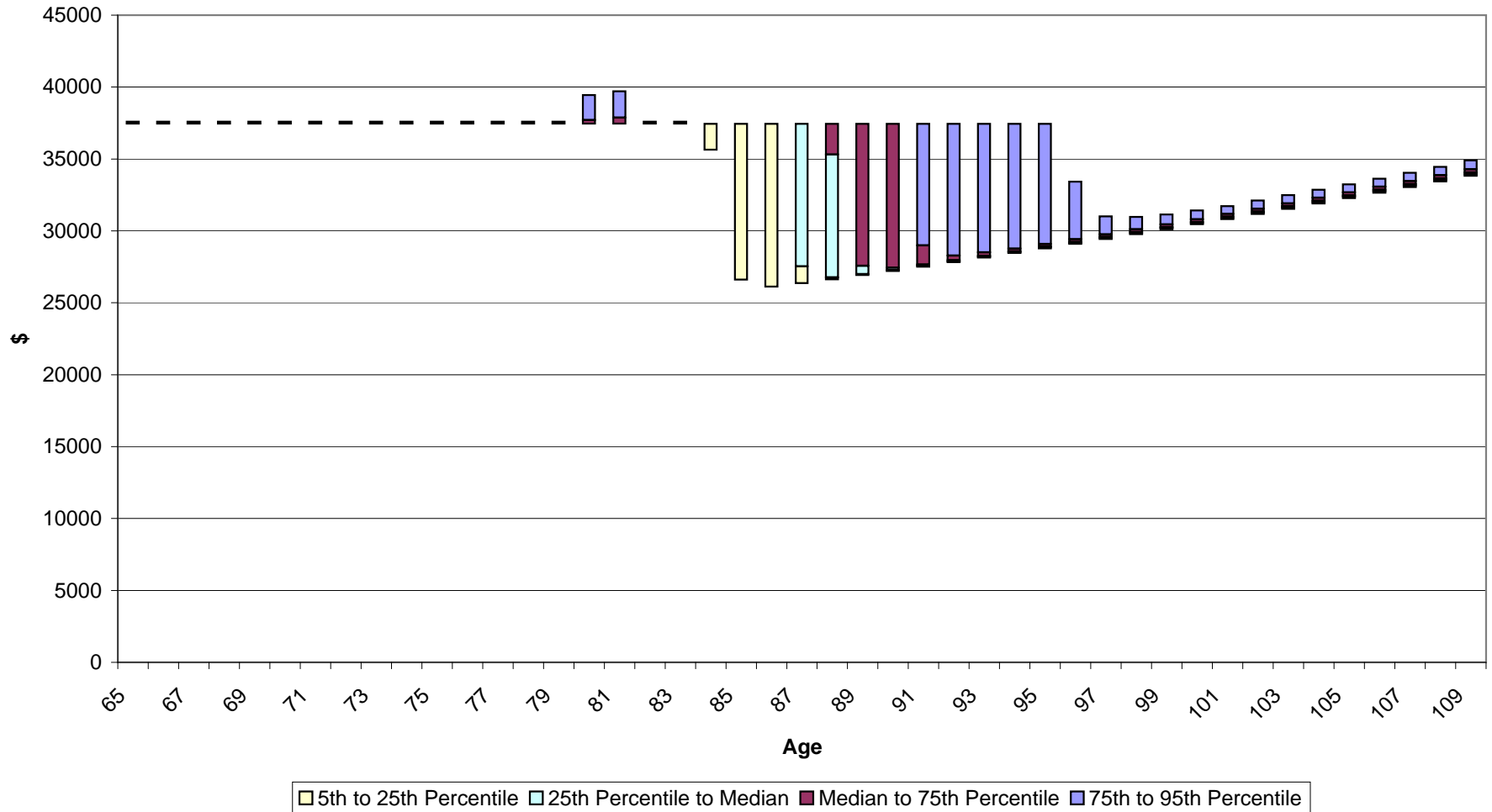
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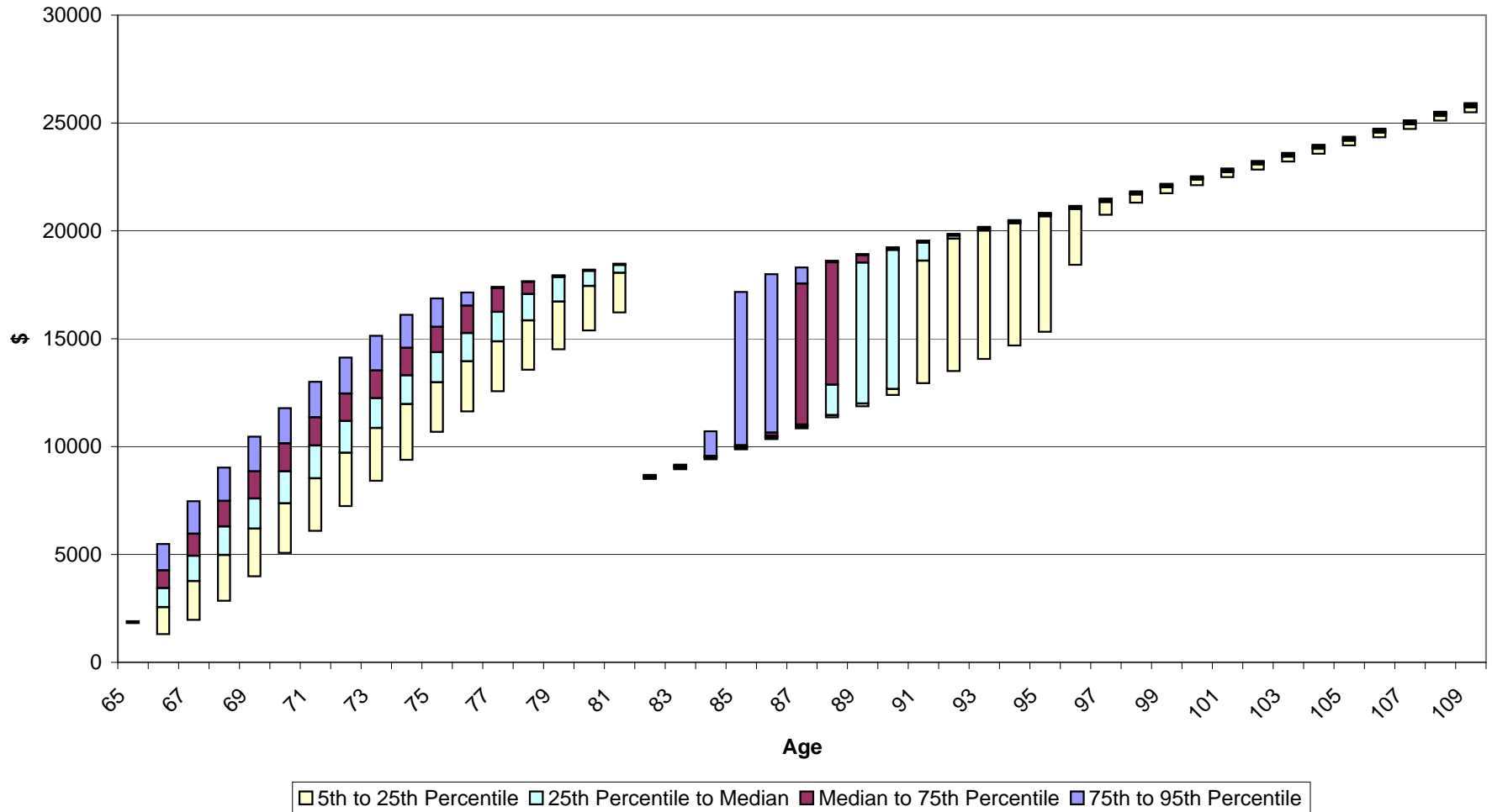
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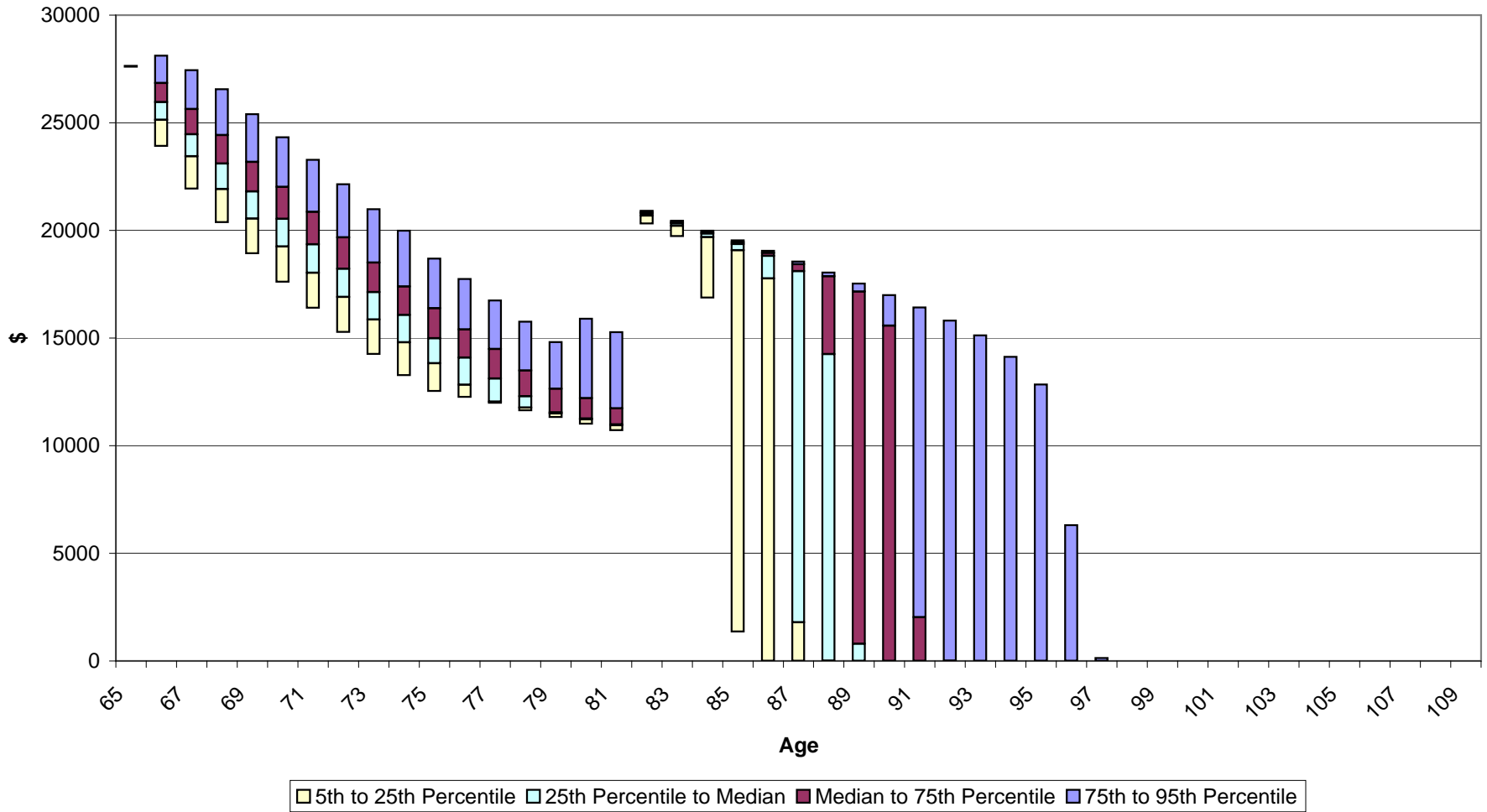
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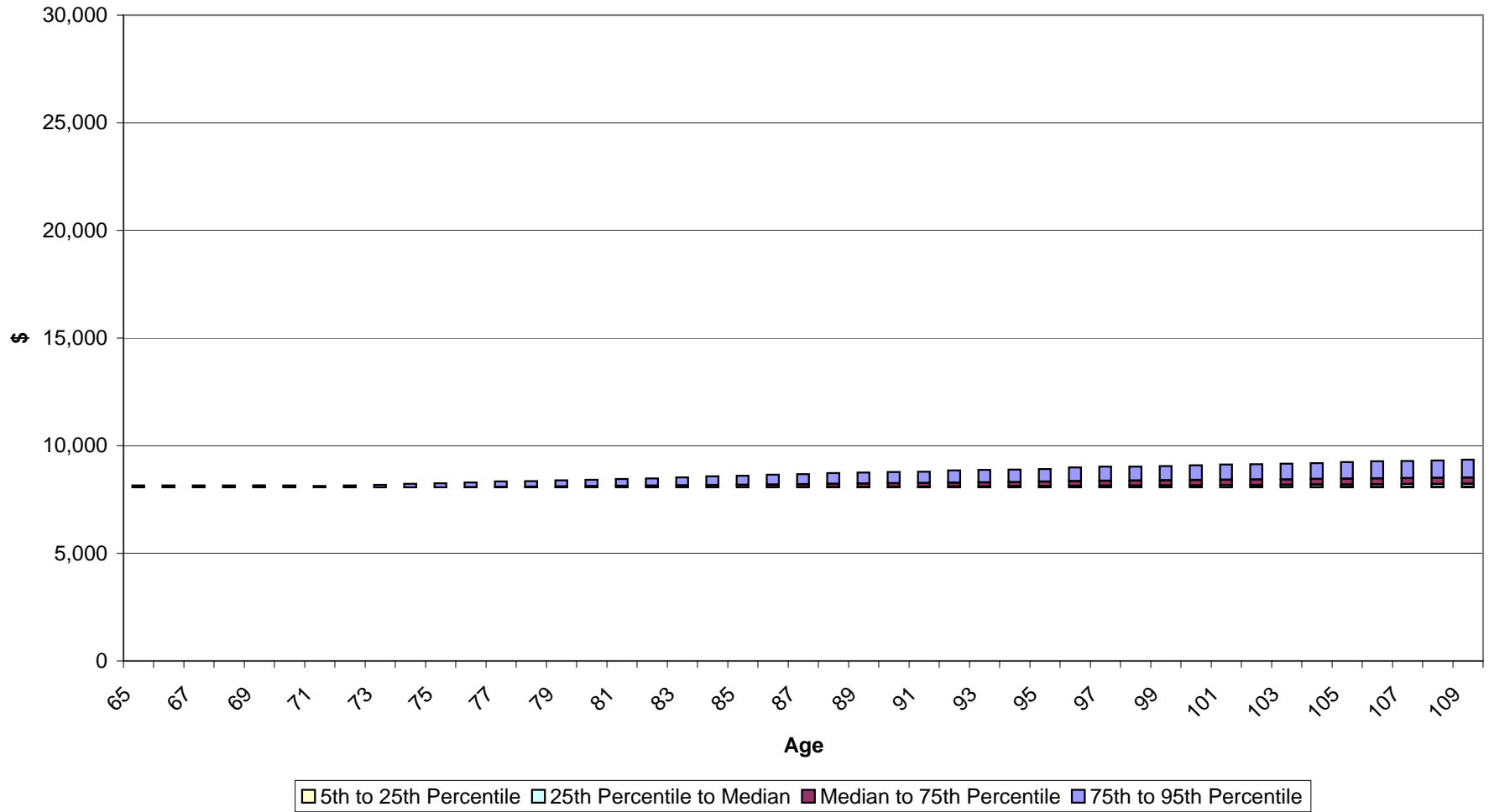
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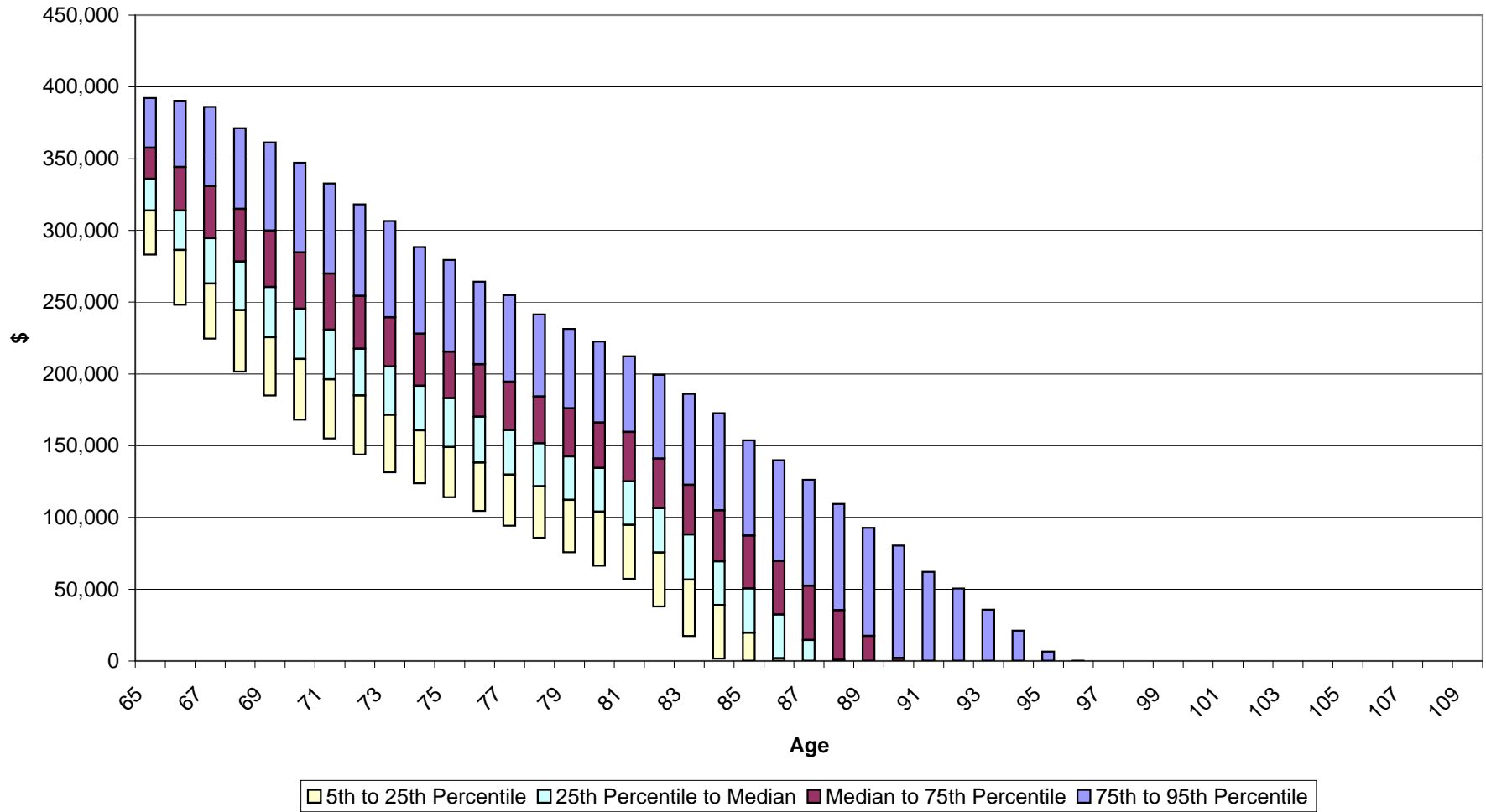
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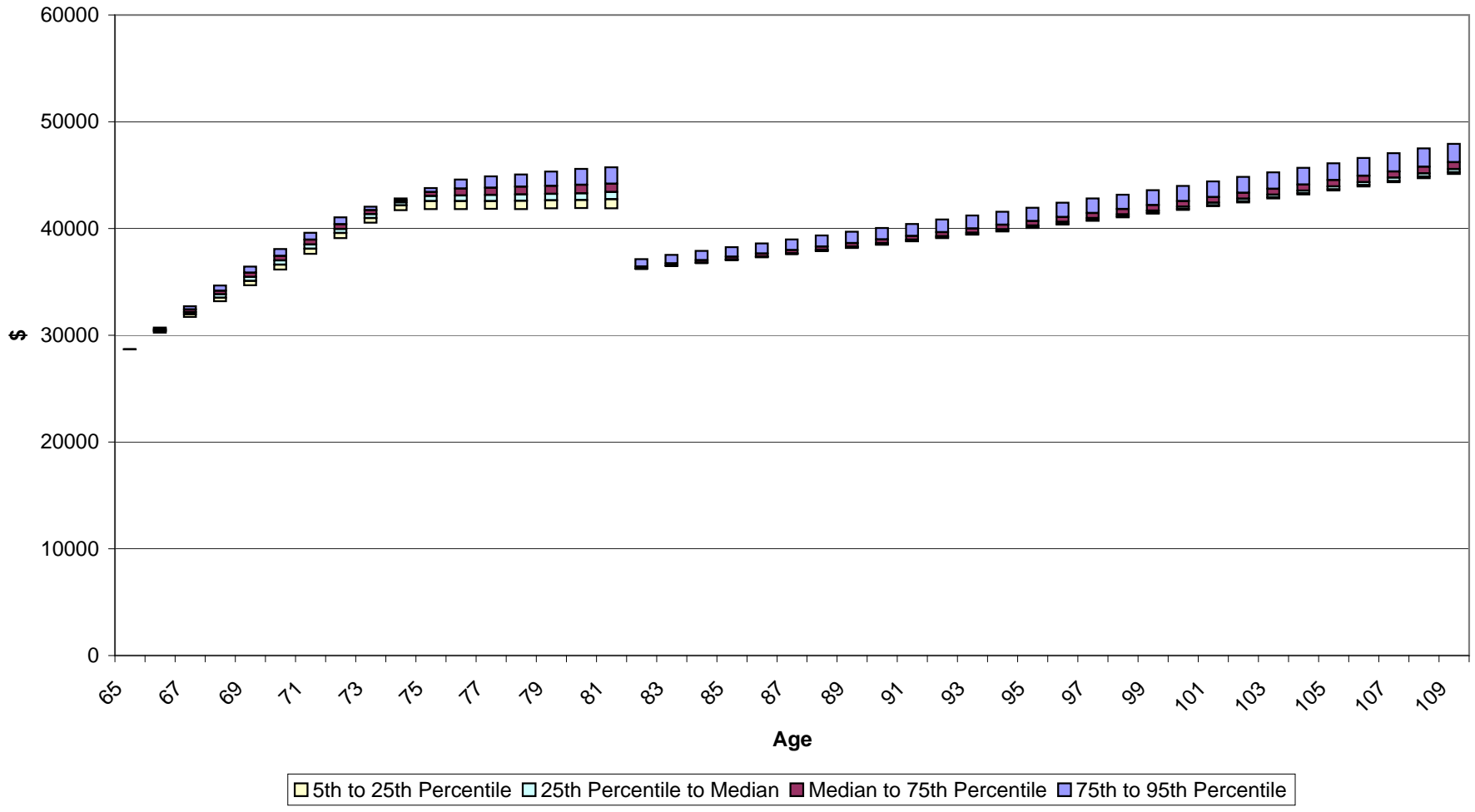
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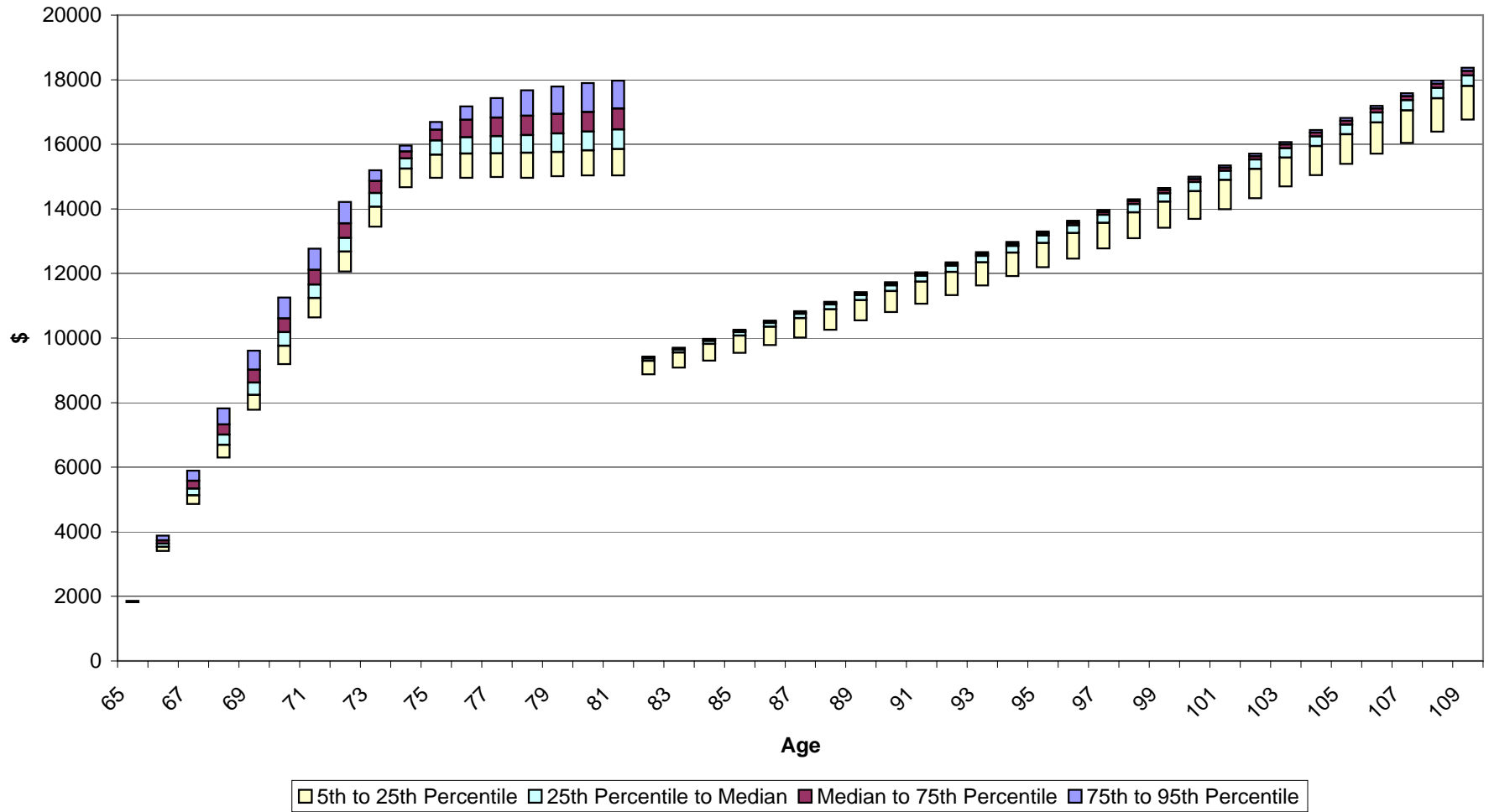
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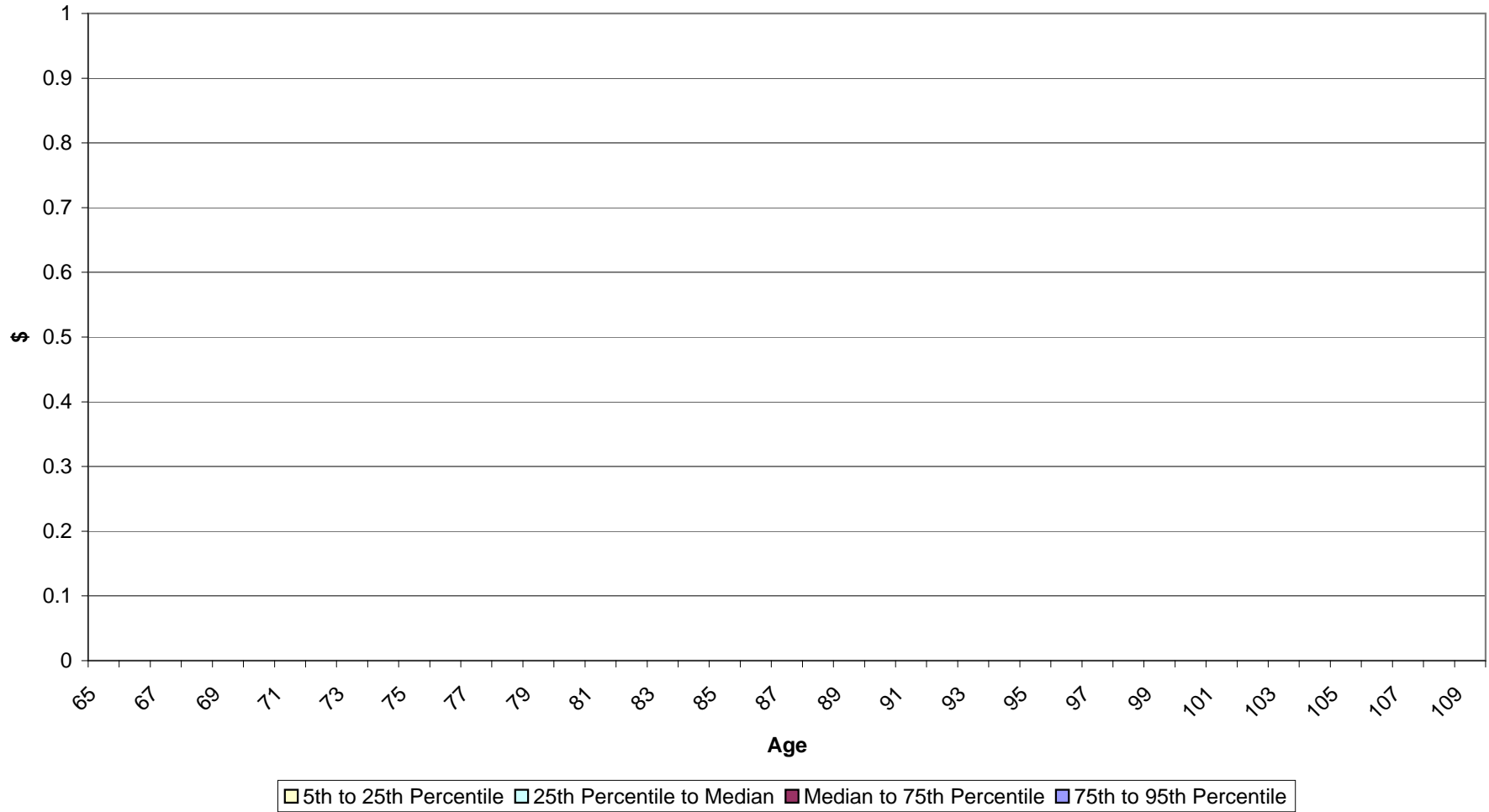
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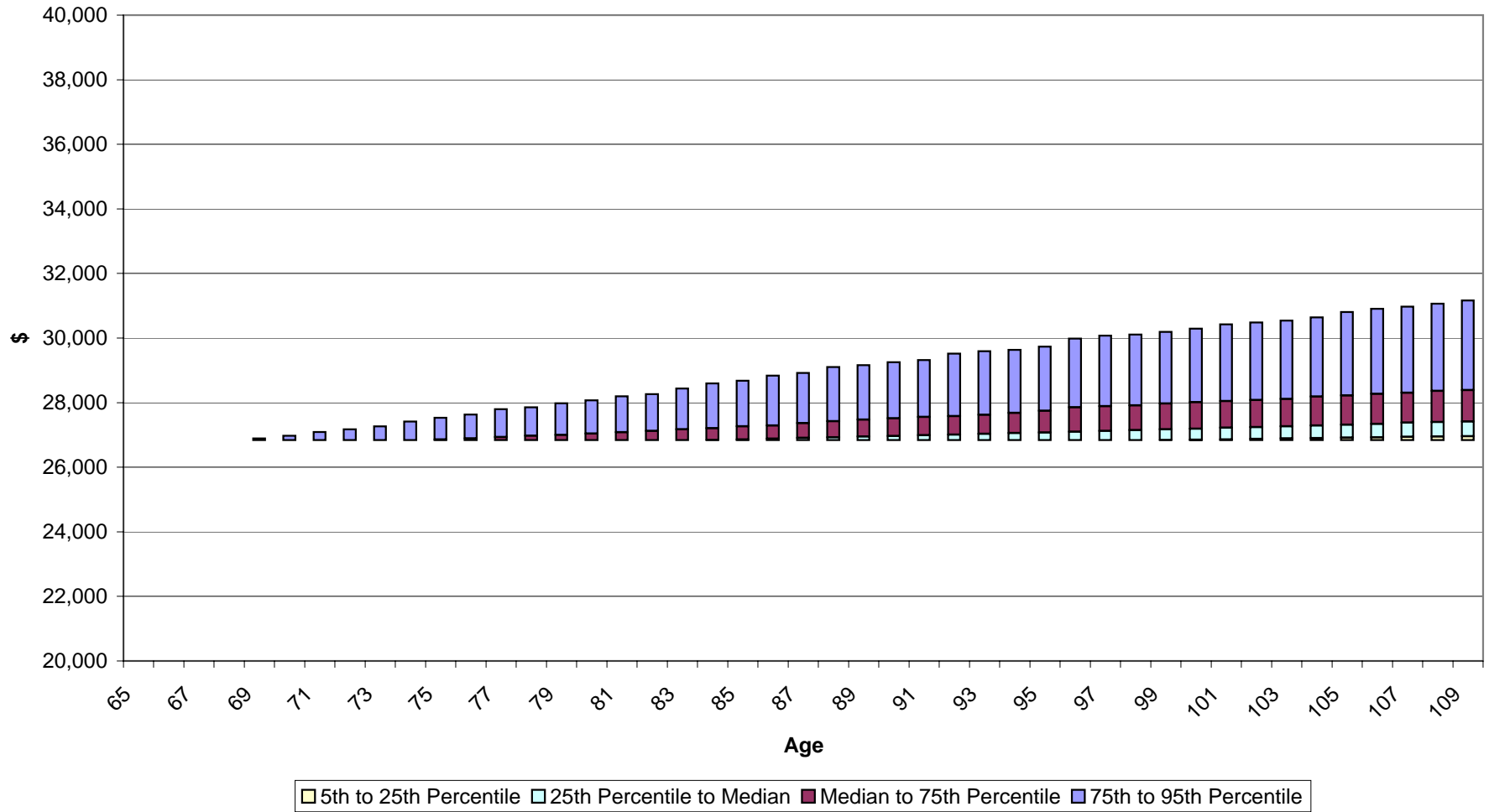
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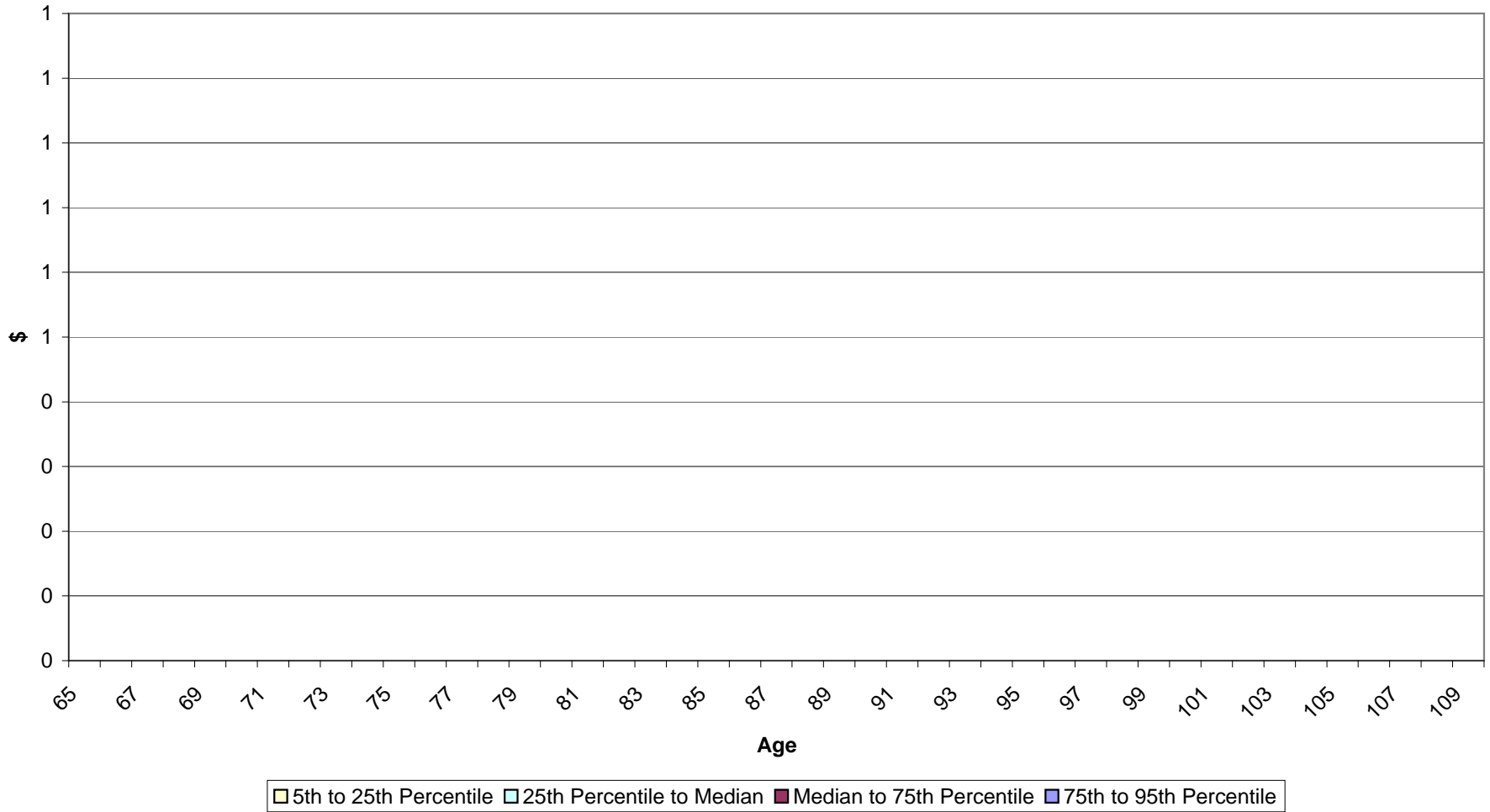
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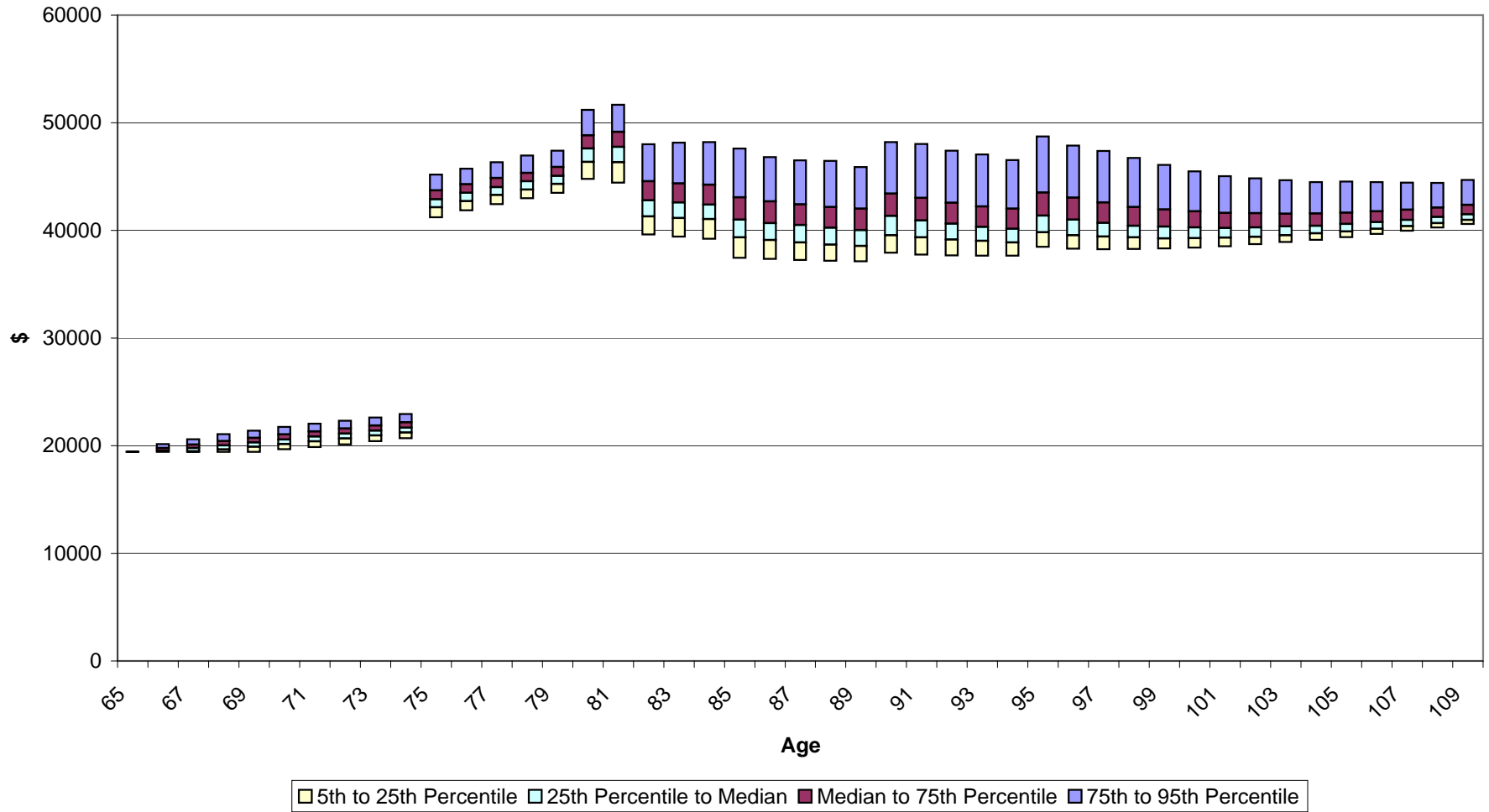
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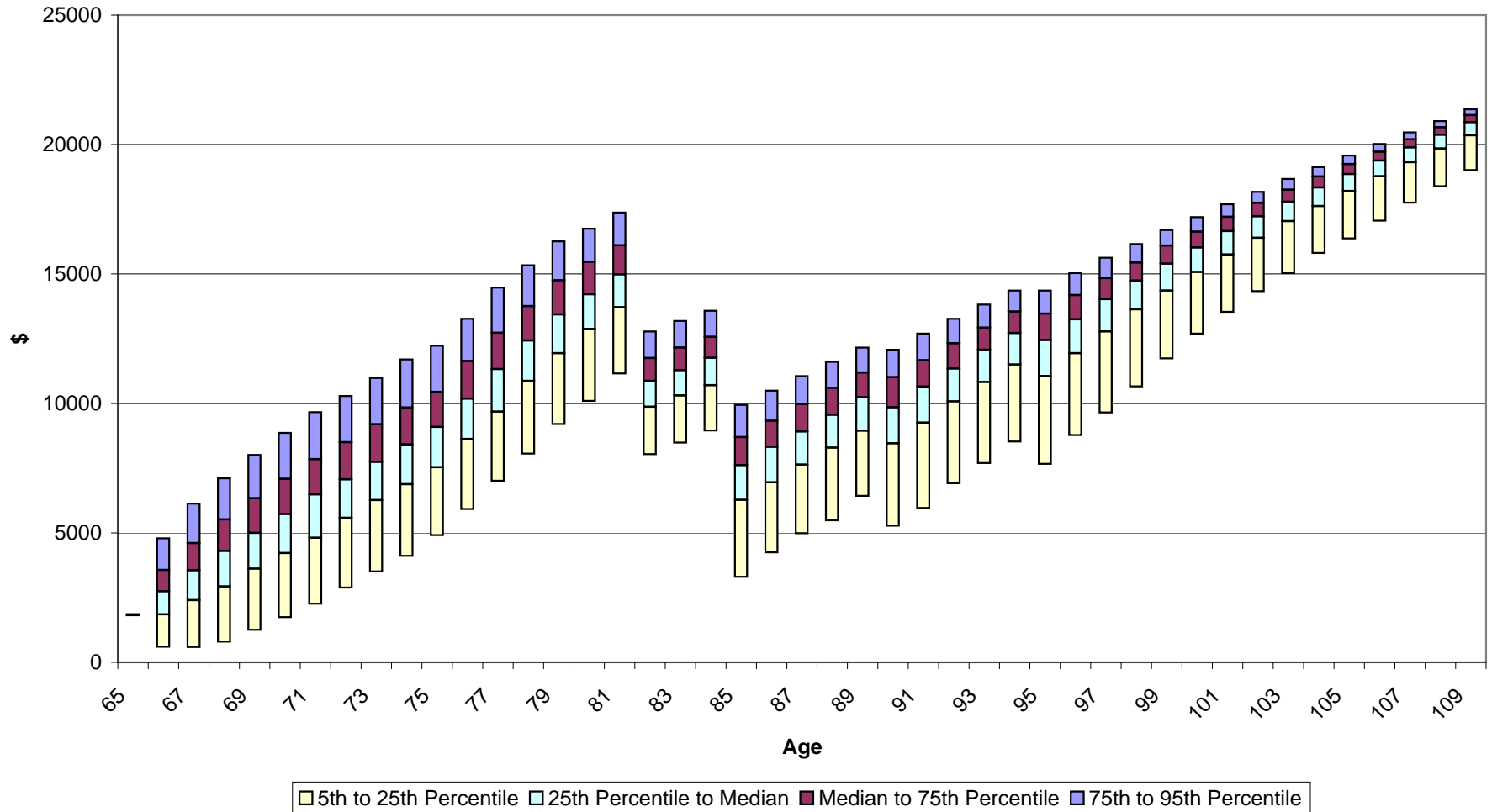
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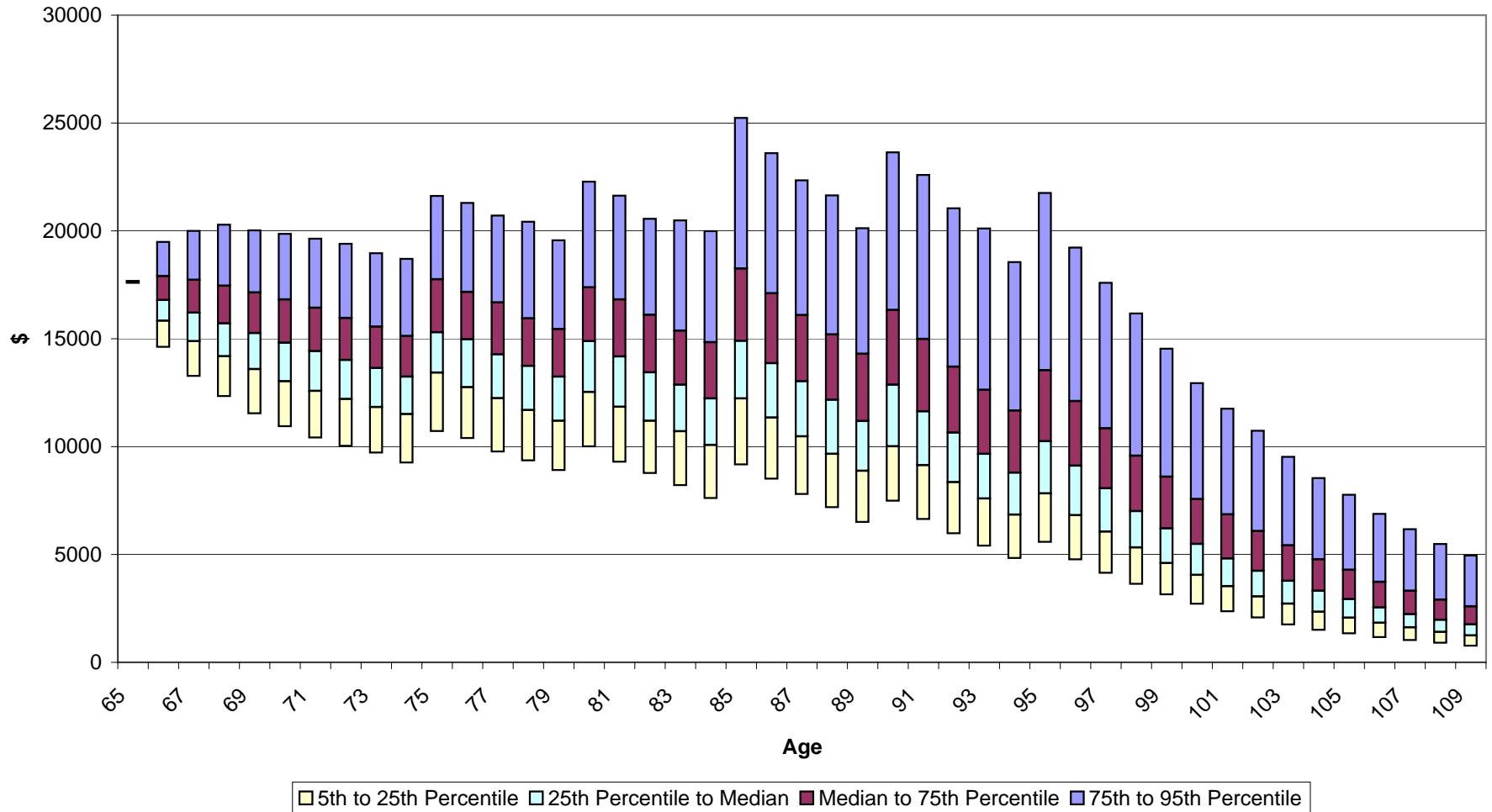
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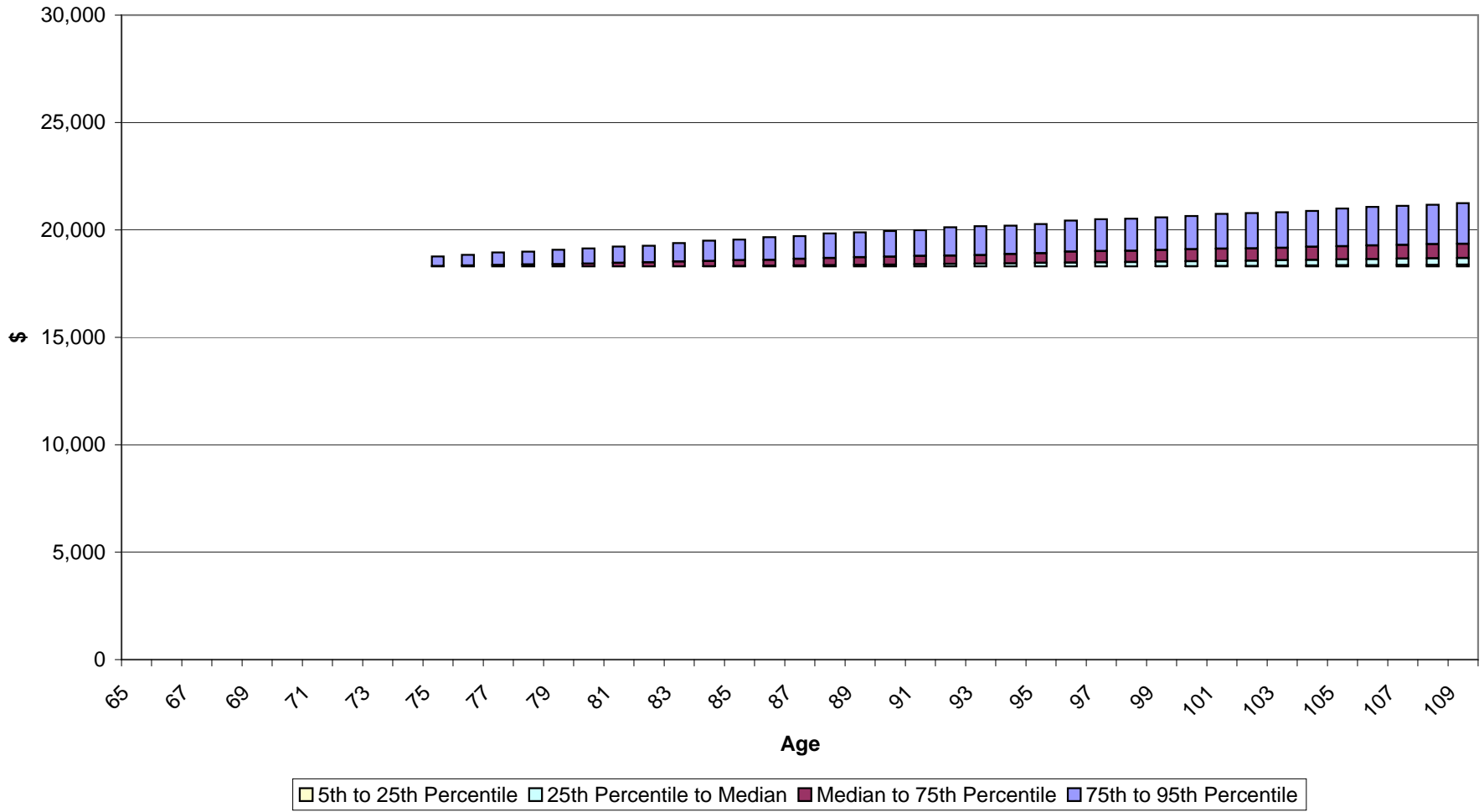
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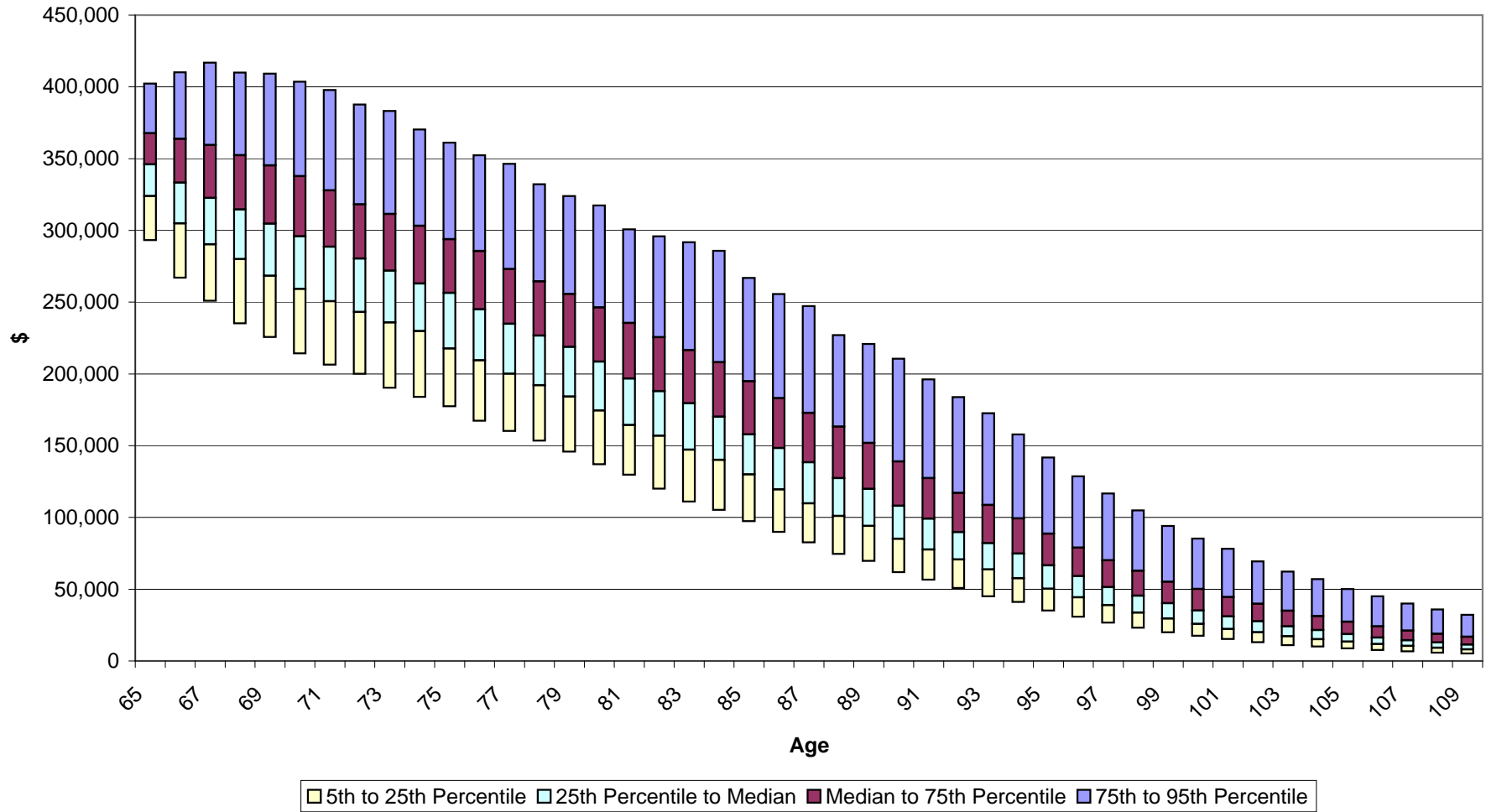
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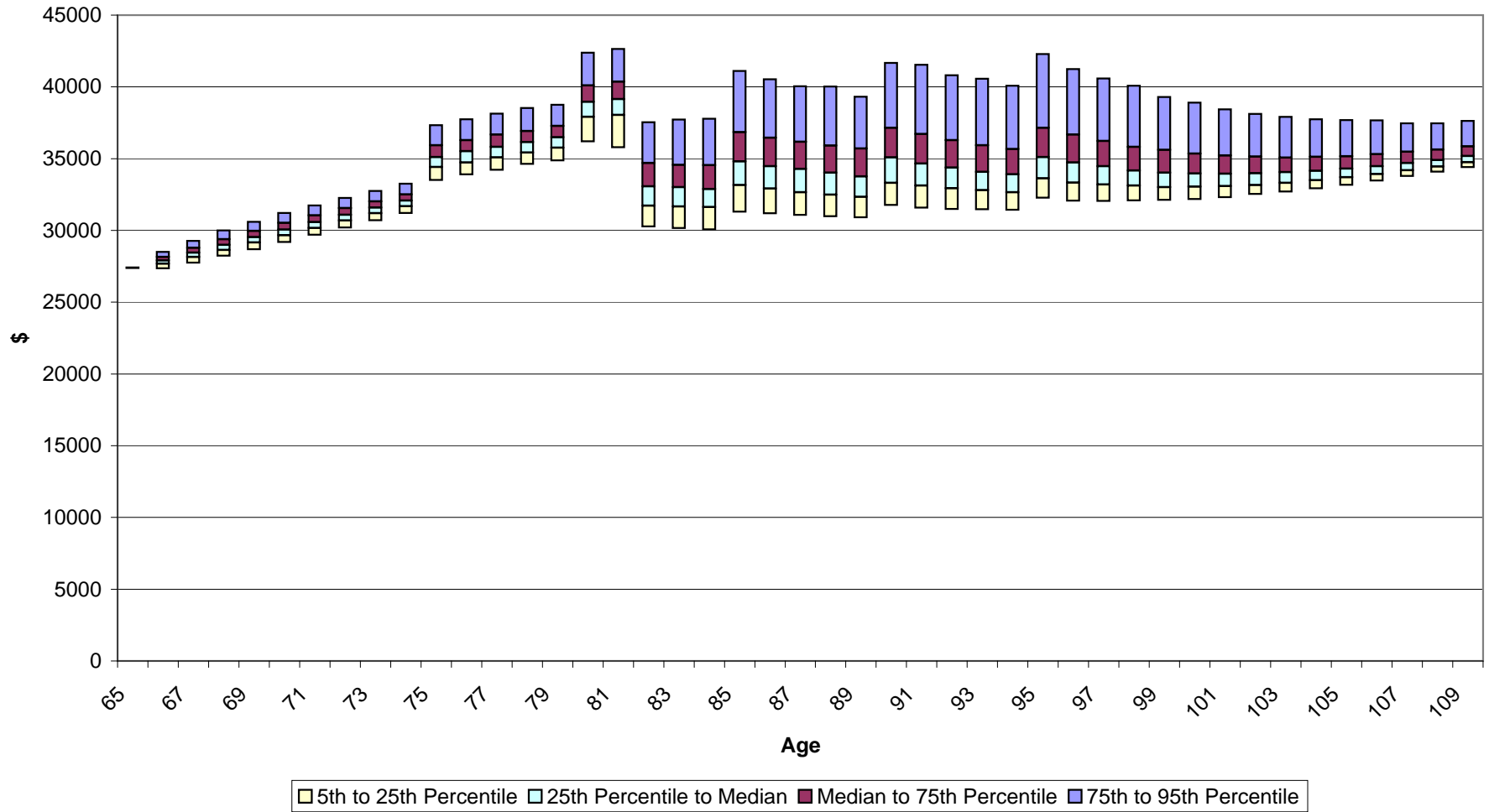
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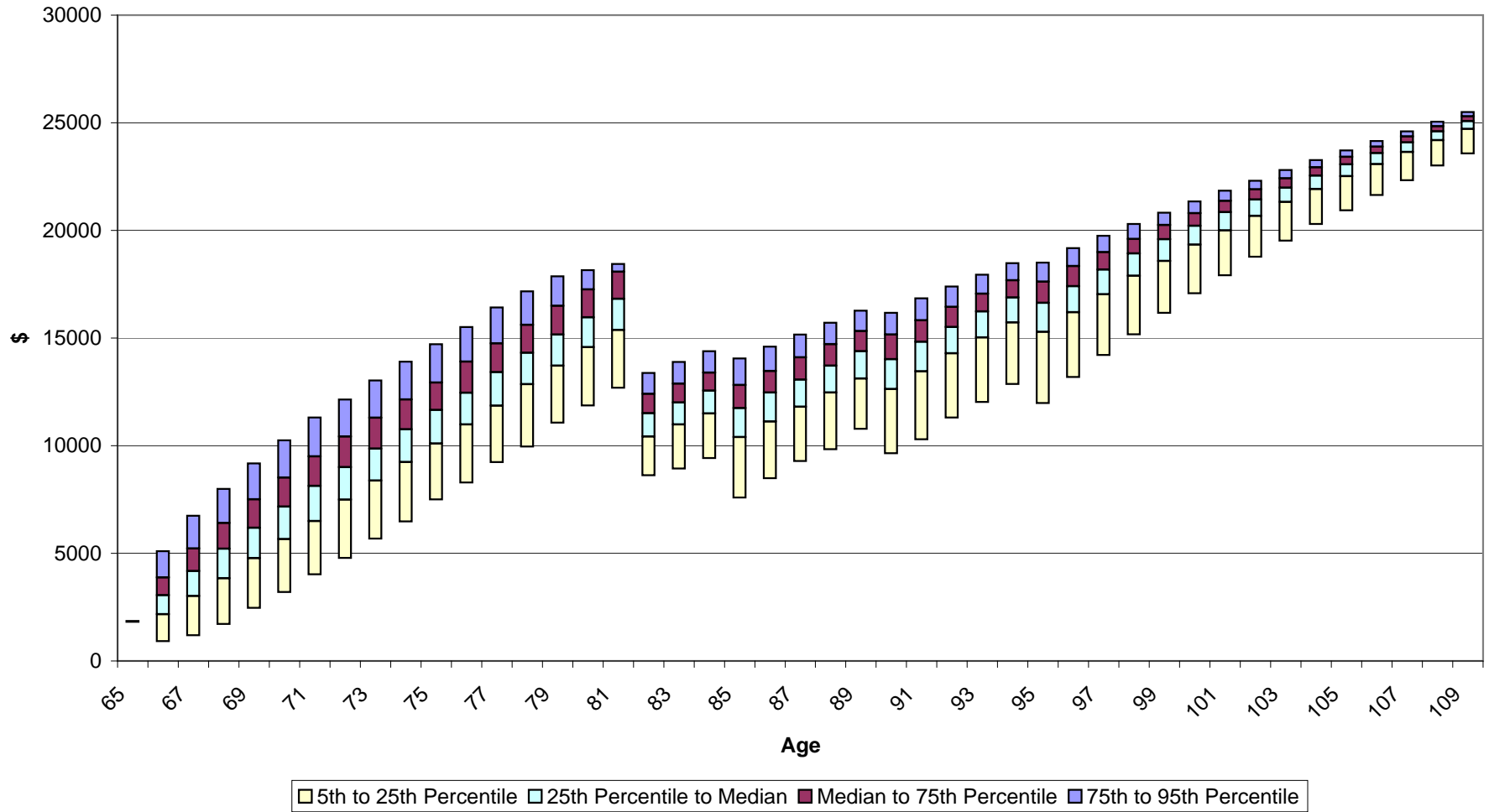
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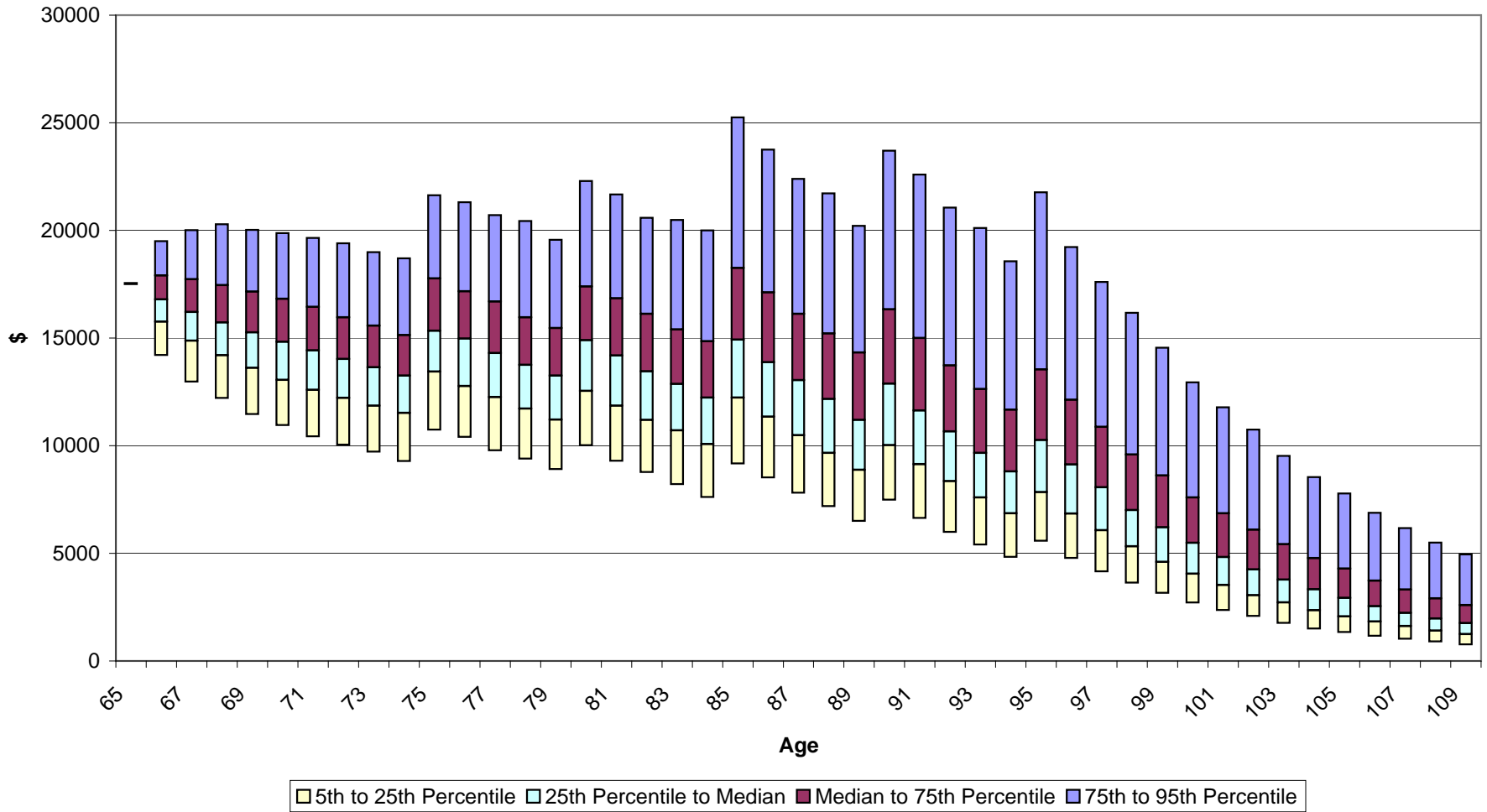
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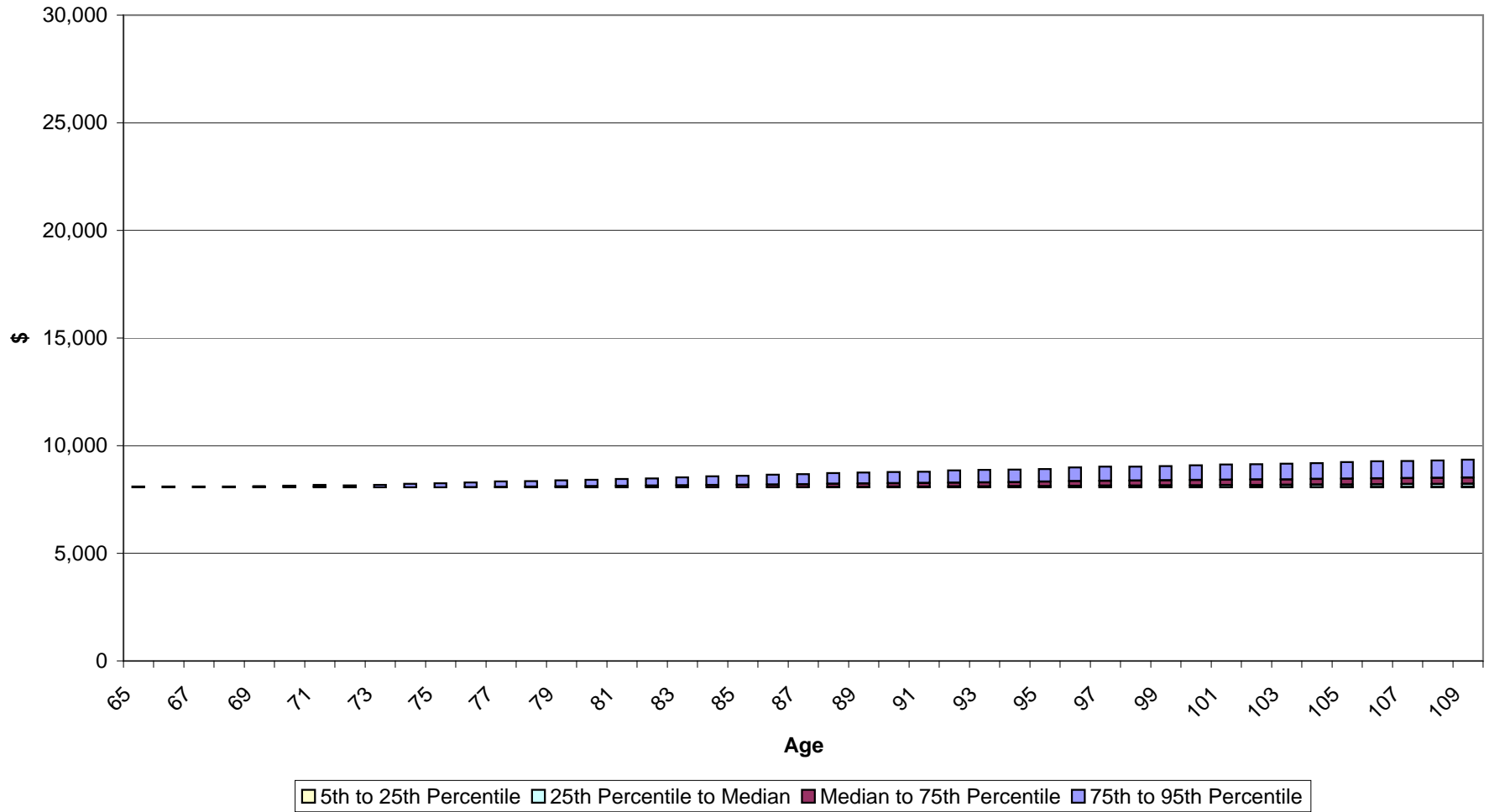
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