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**Implementing the conditional value at risk approach for even-flow forest
management planning**

Kyle Eyvindson*¹, Zhuo Cheng¹

¹University of Helsinki, Department of Forest Sciences, Latokartanonkaari 7 (P.O. Box 27) 00014
University of Helsinki, Finland

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Abstract

Deciding upon a plan of action for a forest holding involves a significant amount of uncertainty. As forest planning involves the use and extraction of resources, uncertainty lies in both the future development of the forest (biological) and the development of the market for forest based products (economic). Additionally, natural hazards can be a source of unexpected losses. In traditional forest management planning, the most common way to deal with uncertainty is to ignore it. Growth models are used which are assumed to be correct, and timber prices are assumed to be held constant. By ignoring the fact that these models provide only one representation of what may happen, the forest owner may get a too optimistic (or pessimistic) view of the potential value of the forest holding. Through a stochastic programming formulation, these uncertainties can be modelled directly into the optimization formulation, and a management plan can be created which incorporates the risk preferences of the decision maker. This is highlighted through an example which maximizes the net present value of the holding while minimizing the conditional value at risk of obtaining a stated even-flow of income.

1 **Introduction**

2 Integration of forest owner risk preferences is something which has been rarely done in forest
3 management planning. There are two primary reasons for this; the first relates to how to model the
4 uncertainty into the forest management problem, and the second relates to the acquisition of risk
5 preferences from the forest owner. Incorporating uncertainty increases the complexity of the problem,
6 and could require a change in the tools used to solve the problem. For forest management problems,
7 incorporating uncertainty can be done by shifting from deterministic linear programming models, to
8 stochastic programming models. This shift requires the ability to model the uncertainty under
9 consideration, and a method of incorporating the uncertainty into a solvable stochastic programming
10 form. Once the uncertainty has been incorporated into the model, measures of risk can be evaluated and
11 used as criteria in the planning process. Since most forest owners will not be familiar with risk
12 measures, methods to evaluate and acquire risk preferences will need to be developed.

13 To provide context about the difference between risk and uncertainty, Knight (1921) distinguishes the
14 two based on the knowledge of the probability distributions. Uncertainty has an unknown probability
15 distribution, while risk has a known probability distribution. However, this clear boundary between risk
16 and uncertainty may be blurred. For instance, even though the probability distribution is unknown, the
17 probability distribution may be estimated through empirical data, and in this way we can use risk
18 measures and tools. Incorporating uncertainty into the forest planning model requires an understanding
19 of the models used, and the possible variation of parameters within the models. Given a single set of
20 parameters, these models predict one possible future scenario for the forest holding. Uncertainty can be
21 incorporated by slightly modifying the parameters (while remaining within the realm of possibility) and
22 therefore creating a different future scenario will be produced. With a large number of scenarios, it is
23 possible to utilize scenario based stochastic programming to model the uncertainty (Birge and

Louveaux 2011). This allows for risk preferences to be integrated into the planning process. The acquisition of risk preferences requires that the planner be able to explain and describe how the risk preferences are integrated into the development of the forest management plan.

Consideration of making decisions under uncertainty has a fairly long tradition in forest applications. For a detailed analysis readers are referred to Pasalodos-Tato et al. (2013). The selection of a tool to find an appropriate solution depends on the problem and the types of uncertainty under consideration. Integrating uncertainty into the problem formulation can dramatically increase the problem size. When the issue of tractability is a primary concern, tools which keep the problem size to a manageable extent may be preferable. For instance Hof and Pickens (1991) used a chance constrained and chance minimizing approach to ensure demand constraints according to a specific probability. In a similar fashion, Palma and Nelson (2009) used robust optimization to maximize net present value while meeting demands under specific uncertainties. These approaches incorporate uncertainty into the problem by applying bounds to a specific parameter, and in this way the problem size does not increase too quickly. This has the benefit of maintaining a solvable problem, but simplifies the complex features within the stochastic model (King and Wallace 2012).

Stochastic programming models apply a probability distribution (either known or estimated) to the data under consideration. The true stochastic problem can be approximated by a deterministic equivalent problem, and to solve these problems a discrete set of scenarios needs to be generated. This can lead to the problem size increasing dramatically. In an application to manage forests according to climate change, Eriksson (2006) formulated a stochastic programming model for a very small holding with only a few alternatives for climate change. The size of the problem grew quickly and would be difficult to solve for a reasonably sized forest for a normal management horizon. This application formulated

the extensive form of the problem and could have benefited from the generation of a smaller scenario tree (i.e. King and Wallace, 2012). In applications related to predicting and respond to natural hazards (i.e. Forest fires) stochastic programming has been used rather extensively (Gassmann 1989; Boychuk and Martel 1996; Bevers 2007).

The use of stochastic programming for the management of forests at the holding level has been used in several applications. Kangas et al. (2015) used a two-stage stochastic program to identify the optimal timing to measure / re-measure forest stands with an aim to maximize net present value. Eyvindson and Kangas (2014) used a stochastic goal programming framework to identify solutions which minimize the expected negative deviations in a multi-criteria context. Additionally, Eyvindson and Kangas (2016a) incorporated risk preferences into a two-staged stochastic program with fixed recourse, so that the decision maker could adjust his/her risk preferences and produce different solutions to accommodate those risk preferences. In a similar vein, Gong (1998) showed that the optimal choice on harvesting depends upon the risk preference of the decision maker.

In stochastic programming, recourse can be interpreted as methods for intelligently dealing with uncertainty. The type of recourse depends upon the decisions to be made when new information becomes available during the course of the problem. Some stochastic programming models allow for decisions to be made after new information becomes available (two-stage stochastic programs with recourse). Alternatively, other stochastic programs formulations require that the decisions remain fixed even after new information becomes available (two-stage stochastic programs with fixed recourse). In this way the recourse is to minimize the penalty incurred for surpluses or deficits (Chapter 2 of Birge and Louveaux 2011). In a forest management perspective, the fixed recourse option may be suitable as new information may only become available once the decision has been taken. For instance, a forest

owner signs a contract to a forest company to harvest a select number of stands. Only once the harvest is complete, does the owner know the true volume of the stands and the associated income acquired.

Through the use of stochastic programming, it is possible to measure and evaluate a variety of risk measures. To measure risk, it is important to understand what risk is. One example of measuring risks is from Markowitz (1952), where he evaluated risk as the variance of the returns from a portfolio. In a similar vein, the ISO has defined risk to be “effect of uncertainty on objectives” (ISO Guide 73:2009). So with this general definition, risk can be positive (e.g. unexpected profits) or negative (e.g. unexpected losses). Depending on the specific circumstances negative risk may be more important than positive risk. With this context, it is possible to only consider downside risk measures. In a multi-criteria context, the downside risk can be interpreted as minimizing the expected loss away from the target value for each criterion. Common downside risk measures are: the downside mean semideviation (Krzemienowski and Ogryczak 2005), the Value at Risk (VaR, a threshold where the losses exceeding a specific probability; Duffie and Pan 1997) and the Conditional Value at Risk (CVaR, the average loss exceeding the VaR; Rockafeller and Uryasev 2000). By evaluating the risk measure value, it is possible to incorporate risk attitudes into the optimization process. This can be done either by integrating the risk measure into the objective function, or as an additional constraint. If the risk measure is included as a part of the objective function, a user defined parameter should be added as a means to balance the importance of the risk measure.

The downside risk measures evaluated in this paper is the CVaR. One key feature for utilizing the CVaR as a downside risk measure is that it meets all conditions for coherency (Artzner et al. 1999; Krokmal et al. 2011). A coherent risk measure must satisfy the following four axioms: translation invariance, subadditivity (or convexity), positive homogeneity and monotonicity. In this way, the

CVaR can be optimized efficiently by linear programming software, and is well suited to scenario-based optimization (Yamai and Yoshida 2002).

Conceptually, the VaR and the CVaR are rather similar: the VaR measures the point at which the losses exceed a specific probability, while the CVaR measures the average of the losses exceeding the specific probability (Figure 1). Minimizing the CVaR can be done through a jointly-distributed function (Rockafellar and Uryasev 2000): $F_{\alpha}(x, Z)$, where α is the specific probability for the risk threshold and Z represents the VaR. Minimizing the function, is the same as minimizing CVaR at α . By linking the two risk measures together, the VaR is calculated as a by-product of the optimization. Through the use of a large number of scenarios, the function can be represented in a reduced form, which is used in this paper.

The objective of this paper is to integrate the use of the CVaR into a forest management problem. The potential of this method is demonstrated on a small forest holding, in Eastern Finland. Consideration of uncertainty is limited to the impact of growth model errors, initial inventory errors and future price uncertainty. This paper describes how these errors are incorporated into the stochastic programming framework, and develops a model which maximizes expected net present value, subject to a CVaR constraint for the achievement of periodic incomes. To provide a comparison first the standard deterministic model is formulated, then the two-stage stochastic model with fixed recourse is formulated and finally an analysis of the value of the stochastic solution (VSS) is conducted.

Methods

To demonstrate the method, a standard forest management problem is developed. One of the more common problem formulations in forest management is to maximize net present value, while ensuring some even-flow constraint (such as non-declining periodic incomes) (Eyvindson and Kangas 2016a). In

1 a stochastic setting, a comparable approach would be to maximize expected net present value, while
2 minimizing the losses from a specific income target. The primary difference is that in the stochastic
3 model the decision maker is required to provide specific income targets for the periods. If a non-
4 declining income constraint was used in a stochastic setting, the implicit meaning is somewhat different
5 than in the deterministic model. If interpreted directly to a stochastic setting the non-declining
6 constraint will require that the subsequent period worst case exceeds the current period. In this way, the
7 expected value of each period will be increasing over time, and this will have a substantial impact on
8 the NPV. Thus to make the problems comparable, the deterministic model required modifications so
9 that information regarding the specific time preferences for income was included. Additionally, this
10 model allows the decision maker to identify specific periods when additional timber income is
11 required.

12 To highlight the difference between the deterministic model and the stochastic model, two optimization
13 models will be formulated; the expected value (EV) model (a deterministic model) and the fixed
14 recourse problem (RP) model (a stochastic model). Additionally, the decision generated by the EV
15 model can be evaluated using the same stochastic setting. For each model, two different objective
16 functions are developed. Both objective functions maximize the expected NPV balanced according to
17 either a weighted: **(A)** maximum loss for all periods, or **(B)** the average loss for all of the specific
18 periods, so that large losses can occur during a single period. The preferential interpretation is similar
19 to the key goal programming formulations, where formulation **A** is similar to the minimax formulation,
20 and formulation **B** is similar to the weighted formulation (Diaz-Baltiero et al. 2013).

21 The first model is the EV model, which ignores uncertainty and simply uses a single forecast of
22 potential management alternatives to represent the resources extracted and the future state of the forest.

$$[1A] \quad \max EV = \mathbb{E}(NPV) - \lambda \max_{t \in T} \mathbb{E}(L_t)$$

$$[1B] \quad \max EV = \mathbb{E}(NPV) - \lambda \sum_{t=1}^T \frac{\mathbb{E}(L_t)}{T}$$

1 subject to:

$$[2] \quad \mathbb{E}(NPV) = \sum_{t=1}^T \frac{\mathbb{E}(I_t)}{(1+r)^{(t*S-u)}} + \sum_{j=1}^J \sum_{k=1}^{K_j} \frac{\mathbb{E}(PV_{jkT})x_{jk}}{(1+r)^{(S*T)}}$$

$$[3] \quad \mathbb{E}(I_t) = \mathbb{E}(PT_t) \sum_{j=1}^J \sum_{k=1}^{K_j} \mathbb{E}(H_{jkt})x_{jk} - \mathbb{E}(PE_t) \sum_{j=1}^J \sum_{k=1}^{K_j} \mathbb{E}(C_{jkt})x_{jk}, \forall t = 1, \dots, T$$

$$[4] \quad \mathbb{E}(L_t) = [\mathbb{E}(I_t) - b_t]^+, \forall t = 1, \dots, T$$

$$[5] \quad \sum_{k=1}^{K_j} x_{jk} = 1, \forall j = 1, \dots, J$$

2 where $\mathbb{E}$ is the expected value, NPV is the net present value of the forest holding, L_t is the loss for
3 period t , T is the total number of periods under consideration, I_t is the income for period t , r is the
4 discount rate, S is the duration of a period, u is the timing of the operations during the period (e.g. when
5 do harvests occur within the period), PV_{jkT} is the productive value of stand j using scheduled k for the
6 last period, x_{jk} is the proportion of stand j managed according to schedule k , PT_t and PE_t are vectors of
7 timber prices and silvicultural costs respectively at time t , H_{jkt} and C_{jkt} are vectors of timber
8 assortments harvested and silvicultural activities conducted for stand j , according to schedule k and
9 period t , and b_t is the target for income for period t , λ is a parameter for risk coefficient. The risk
10 coefficient is determined by the decision maker, and through a weighted manner the parameter

balances between the expected NPV and the expected losses. For a risk averse decision maker, the risk parameter will be larger and for a risk neutral DM the value should be low. The square brackets (as in equation 4) indicate that if the value should be negative, a zero will be returned otherwise, it is the positive value. To assist in the readability of the equations, a table of the parameters and variables are provided in table 1.

The objective functions manage risk in two distinct fashions. Both objective functions maximize the expected NPV, while eq 1A penalizes the weighted maximum loss for all periods (which will lead to a more even distribution of losses over the periods). The first constraint (eq 2) simply calculates the expected NPV, the first part of the constraint evaluates the present value of the silvicultural activities during the planning horizon, while the second part discounts the productive value of the holding at the end of the horizon. The productive value is calculated using the models from Pukkala (1995), which evaluates the discounted value of income from the forest. The second constraint (eq 3) calculates the expected income, represented by the expected revenues (harvested timber multiplied by timber price) and the expected costs (silvicultural activity multiplied by cost). The third constraint (eq 4) evaluates the expected periodic losses from a specified target, which returns a 0 if there are no losses (target is exceeded) or the difference between the expected income and the target. The fourth constraint (eq 5) requires that the entire proportion of all stands are allocated to a specific treatment schedule, a model I formulation from Johnson and Scheurman (1977).

Table 1.

In the EV problem formulation, the objective is to maximize NPV while minimizing the loss. It is possible that both objectives will return the same solution. This is the case where there are no losses.

1 This formulation is comparable to the even-flow model highlighted in chapter 7.5 of Buongiorno and
 2 Gilless (2003). In that formulation, the goal was to maximize NPV while ensuring each period had
 3 equal harvestings. In a stochastic setting (and to make the EV problem relatable to the corresponding
 4 stochastic form) the losses are measured in terms of the periodic CVaR.

5 Uncertainty can be included into the model by generating a large set of scenarios through a Monte
 6 Carlo process. One scenario represents the situation where all uncertain information is resolved. For
 7 that one scenario, we assume that we know what the price of timber will be in the future and what will
 8 be the result of the variety of silvicultural treatments will be. To approximate the uncertainty, a large
 9 set of scenarios can be used. A check on how well the scenario set approximates the real distribution
 10 can be done through the Sample Average Approximation method (Kleywegt et al. 2002). The second
 11 problem formulation integrates the uncertainty estimates through a scenario based approach. In this
 12 way, a variety of different sources of uncertainty can be integrated into the same scenario set.

$$[6A] \quad \max RP = \sum_{n=1}^N p_n NPV_n - \lambda \left(\max_{t \in T} CVaR_t \right)$$

$$[6B] \quad \max RP = \sum_{n=1}^N p_n NPV_n - \lambda \sum_{t=1}^T \frac{CVaR_t}{T}$$

13 subject to:

$$[7] \quad NPV_n = \sum_{t=1}^T \frac{I_{nt}}{(1+r)^{(t*S-u)}} + \sum_{j=1}^J \sum_{k=1}^{K_j} \frac{PV_{njk6} x_{jk}}{(1+r)^{(S*T)}}, \forall n = 1, \dots, N$$

$$[8] \quad I_{nt} = PT_{nt} \sum_{j=1}^J \sum_{k=1}^{K_j} H_{njkt} x_{jk} - PE_{nt} \sum_{j=1}^J \sum_{k=1}^{K_j} C_{jkt} x_{jk}, \forall n = 1, \dots, N, t = 1, \dots, T$$

$$[9] \quad L_{nt} = [I_{nt} - b_t]^+, \forall n = 1, \dots, N, t = 1, \dots, T$$

$$[10] \quad CVaR_t = Z_t + \frac{1}{(1 - \alpha)N} \sum_{n=1}^N [L_{nt} - Z_t]^+, \forall t = 1, \dots, T$$

and eq [5], where N is the total number of scenarios, p_n is the probability of scenario n occurring, $CVaR_t$ is the CVaR for time t , α is the confidence level for the VaR and Z_t is the VaR for period t . As in the previous model, the first constraint (eq 7) calculates the NPV for each scenario, the second constraint (eq 8) calculates the income for each scenario at each period. The third constraint (eq 9) calculates the losses for each scenario at each period. The fourth constraint calculates the CVaR for each period. This is a two-stage stochastic program, where the first stage is to determine which management actions will be taken at each stand, and then the second stage is to calculate the CVaR. The two different objective functions treat risk in significantly different manners. For the objective function 1A and 6A the emphasis is on balancing the risk amongst all of the time periods. In a similar optimization philosophy as the minimax goal programming (Diaz-Baltiero et al. 2013) an equitable solution is found. Alternatively, objective function 1B and 6B places an emphasis on minimizing the total aggregated risk, which can lead to a single period having the majority of the risk. This is representative of finding an efficient solution. How the risk is distributed across the periods is a consideration the decision maker must make.

In order to compare the EV and RP solutions, a common framework needs to be used. This requires that the set of decisions selected from the EV formulation is used on the set of scenarios used in the RP formulation. The problem formulation is called the expected result from the expected value solution (EEV). Let us denote $\bar{x}_{jk}$ is the set of decisions derived from eqs [1A or 1B].

$$[11] \quad NPV_n = \sum_{t=1}^T \frac{I_{nt}}{(1+r)^{(p*S-u)}} + \sum_{j=1}^J \sum_{k=1}^{K_j} \frac{PV_{nj6} \bar{x}_{jk}}{(1+r)^{(S*T)}}, \forall n = 1, \dots, N$$

$$[12] \quad I_{nt} = PT_{nt} \sum_{j=1}^J \sum_{k=1}^{K_j} c_{jkt} \bar{x}_{jk} - PE_{nt} \sum_{j=1}^J \sum_{k=1}^{K_j} C_{jkt} \bar{x}_{jk}, \forall n = 1, \dots, N, t = 1, \dots, T$$

1 and subject to eqs [5, 9 and 10]

2 From the EEV formulation, a distribution of results from all scenarios is generated, and from that it is
 3 possible to calculate the CVaR, and expected NPV for the same set of scenarios as used in the
 4 stochastic formulation. Conducting this step allows for the ability to compare the EV formulation with
 5 the RP formulation. The value of the stochastic solution (i.e. the benefit of incorporating uncertainty
 6 into the optimization model) is the difference between the objective function value of the RP solution,
 7 and the value of the EEV solution. A more detailed description on the properties of the value of
 8 information calculations can be found in chapter 4 of Birge and Louveaux (2011).

9 **Materials**

10 To describe the method and to demonstrate its implementation an example from the Finnish forest
 11 conditions is used. A small forest holding (41 stands, 47.3 ha) in the South Savo region which is
 12 composed primarily of coniferous trees (Norway Spruce and Scots pine) with a sub component of
 13 deciduous trees (birch). The age distribution of the holding is fairly even, however the diameter
 14 distribution shows a large portion of the holding is either rather small (0-4.9 cm diameter at breast
 15 height (dbh)) or fairly large (20.0-24.9 cm dbh; Figure 2). The entire planning horizon is for thirty
 16 years, comprised of six 5-year periods. The opportunity to harvest occurs during the middle of the
 17 period (2.5 years). For this case, the decision makers preferences are fairly straight forward, they want

to maximize NPV while obtaining 60,000€ of income per period. The same material has analyzed in Eyvindson and Kangas (2014, 2016a and b).

Three sources of uncertainty were considered in this analysis, the uncertainty regarding future price of timber products, the uncertainty of the initial inventory data, and the uncertainty of the growth models. The uncertainty in the cost of silvicultural activities was not considered in this analysis, and the constant expected values were used. All three uncertainty sources were included into a Monte Carlo process which created a set of 2,000 scenarios. To test how well the set of scenarios approximates the real distribution, the Sample Average Approximation method (Kleywegt et al. 2002) was used.

The forecast of timber price was based on a first-order autoregressive process (AR(1)). The AR(1) model introduces uncertainty in a fairly simple process, where the next period price is based on the current period and a random element. The specific equation for the AR(1) model is:

$$y_t = \varphi y_{t-1} + \varepsilon_t$$
$$\varepsilon_t \sim NID(0, \sigma^2)$$

where y_t is the timber price at time t , ε_t is the normally independently distributed random variable at time t , φ and σ^2 are parameters determined by empirical studies. For this study, we have adopted the parameters used in the study by Leskinen and Kangas (1998). These parameters were constructed based on timber prices from the period of 1950-1992 for spruce and pine, and for the period of 1972-1992 for birch. To adjust the prices to the current time, the prices of different species assortments (Table 2) was taken from RISI (2014).

Table 2

The initial inventory errors and the growth model errors were captured in the simulation software. For this case, we used the forest simulator SIMO (Rasinmäki et al. 2009). In the specific case of Finnish forest conditions, this software has been used earlier to model the impacts of both inventory and growth model uncertainties (Piettilä, 2010). To incorporate the initial inventory errors, prior to running the forest simulator, errors were introduced to the basal area and height. For this study, the errors were assumed to be normally distributed with mean of zero and a standard deviation of 20% of the mean of basal area and height. The normal distribution was selected as it is relatively easy to use, and there is very little information regarding the distribution of the errors. These errors reflect the state-of-the-art inventory techniques in the Scandinavian conditions (Packalén and Maltamo 2007; Mäkinen et al. 2010). Additionally, these measurements were considered to be uncorrelated, as earlier studies found only a small variation which ranged from -0.22 to 0.11 (Haara and Korhonen 2004; Mäkinen et al. 2010).

The growth model errors were introduced into the simulation process. Error models were introduced to stand level models in a similar fashion as in Piettilä et al. (2010). The methods of adding growth model errors depends on if the stand is a seedling stand or not, and the species composition of the stand. If the stand is not composed of seedlings, or is a Scots pine seedling stand, then autocorrelated random variations are introduced to the growth of basal area and height. If the stand is a seedling stand other than scots pine, then autocorrelated random variation is added to the age of the stand.

The models were run multiple times, according to a specific set of parameters. The discount rate parameter had a total of three values (1%, 2% and 3%). The λ parameter had a total of 22 values, ranging from 0.05 to 5, with varying increments, allowing for a higher number of values for the range of 0 to 1. The α parameter had three potential values: 0.8, 0.9 and 0.95. With this set of parameters, the

EV model had to run three times, while the RP model had to run 198 times for each objective [eqs 6A and 6B].

Results

Of the different problem formulations, one solved the problem ignoring uncertainty, the second solved the problem while incorporating uncertainty. Additionally, the solution from the EV problem was evaluated to determine how well it would perform under uncertainty. Without considering uncertainty, the solution to the EV problem maximizes the NPV while incurring some expected loss depending on the importance of the target. When λ is large enough, the periodic expected incomes are met exactly and there are no expected losses. For the specific discount rates, the results for the NPV are: for 1% is 544,947€, 2% is 451,674€ and 3% is 378,960€. The amount of allowable losses was greatest for the lower discount rates, with the timing of the losses occurring at the beginning (end) of the planning horizon when the discount rate was 1% (3%). If we had perfect information, this solution would exactly meet the needs of the decision maker. However, the information we have is not perfect, and forecasting the future state of the forest and forest market will always involve some form of uncertainty. By incorporating the solution from the EV problem, the third formulation (the EEV problem) shows how well the solution performs under uncertainty. All of the results from the multiple iterations can be found in the supplementary information (S1¹). From that information, all of the expected results from each period can be found. All of the summary results can be calculated directly from this material.

Rather than ignoring the uncertainty, the second formulation incorporates it into the model. Two similar, but different problem formulations were proposed, equation 6A balances the CVaR over the periods through a minimax method, while equation 6B minimizes the total CVaR over all periods. How

¹ Supplementary material is available with the article through the journal Web site at:

the risk is managed depends upon the specific intentions of the decision maker. The results for the RP formulation and EEV solution when the discount rate is 1, 2 and 3 % are portrayed in figure 3.

Figure 3

The value of the stochastic solution depends upon the decision makers preferences in how to manage risk, in addition to the incorporated elements of uncertainty. Figure 4 highlight the change in the VSS with a change in discount rates, the parameters α and λ . The VSS curve initially has a negative slope, which becomes positive when the λ parameter is between 0.8 (for discount rate of 1%) and 0.2 (for a discount rate of 3%).

Figure 4.

Discussion:

Evaluating and integrating risk measures into the optimization process requires an understanding surrounding the uncertainty involved in making the decision, and the risk preferences of the decision makers involved. The development of the scenario set for use in the stochastic programming framework requires additional computational resources. For small-scale forest holdings, using a two-stage stochastic program with fixed recourse, this additional requirement is not a substantial obstacle. In order for this process to add value, the decision maker must be able to provide meaningful preferential information on both their personal objectives for the forest holding and their risk preferences for reaching their objectives.

To implement this model of stochastic programming, a forest planner needs estimates of the uncertainty relating to the forest data and the models which generate the predictions of future states.

Most of this added information is available, or can be evaluated using historical data. For the inventory error estimates, accuracy estimates of different inventory methods are available from scientific literature. Timber price forecasts can be developed through a historical dataset (Diebold 2001). In a similar fashion as price forecasts, models which evaluate forest growth can be evaluated. These models require more work to integrate into this process (see Pietilä et al. 2010), as the simulation needs to be run multiple times for each initial inventory estimates. In a forest simulation software, these tasks could be automated, so that the forest planner only need to focus on describing the added information to the decision makers.

For the decision maker to provide meaningful preference information, he/she must understand the problem which is being solved. One criticism of the CVaR approach is that the meaning of the risk measure can be difficult to understand (Durbach and Stewart 2012). This can be especially true for forest owners who may not view their forest holding as an investment. For these owners, the forest planner may need to either simplify the acquisition of risk preference information (i.e. through a questionnaire, in a similar fashion as advisors at investment firms do), or attempt to educate the forest owner by providing a clear definition of the risk measure. For this case, the minimum improvement in the objective function for the EV solution and the RP solution was slightly over 2.39% for the case when discount rate was 1%. This is for the specific case where the decision maker is slightly risk averse. Decision makers who are more sensitive to risk will benefit much more through using the stochastic programming approach.

There are a few interesting aspects in the results which should be highlighted. The first, is how the VSS is initially decreasing with an increasing λ until a point where the VSS then increases. This highlights that a slightly risk averse DM does not benefit as much as either a risk neutral or risk seeking individual, these results are similar to Eyvindson and Kangas (2016a). In figure 4, when the discount

rate is 1%, there are several points where there are abrupt changes in the rate of the VSS. The justification for this is that for the specific λ the EV problem finds a new solution which either reduces the difference between the EEV and RP solutions.

In this example, the objectives and risk measure were focused solely on economic factors. At the family holding level, these criteria may be the main drivers for forest management activities. At regional levels however, other non-economic objectives may become more important. For instance, ecological objectives could be included into the decision making process. All that is required for the implementation of the ecological objectives, is that it can be modeled with the data available. In this way, biodiversity could be used as a criterion in the objective function, and the decision makers could put in a specific risk preference to prevent excessive losses to biodiversity.

The sources of uncertainty included in this analysis were the main uncertainties involved with decision making in the Finnish context of forest management decisions. All of these uncertainties were included through a Monte Carlo simulation, which were based on estimates of uncertainties based on current scientific literature. Other sources of uncertainty could have also been included, for example political decisions on forest taxation policy or adding a subsidy for carbon sequestration. These uncertainties would be better suited to a two-stage stochastic program with recourse. For example, if adding a subsidy for carbon sequestration, politicians may be considering different options for the monetary value of the subsidy, which could correspond to the recourse options. Additionally, impacts of storm and fire damage could be included in the forest management planning model in a similar fashion as Acuna et al. (2010).

The use of a scenario set only approximates the actual distribution of future possibilities. This implies a tradeoff between accurately approximating the distribution and the tractability of the problem. Using

the SAA approach, the lower bound of the optimality gap for the 2,000 scenarios was evaluated to be 0.14% for the specific problem Eq 6A, when $\lambda = 1$ and the discount rate is 3%. For details on how the method can be used in a specific forest management setting, readers are referred to Eyvindson and Kangas (2016b). From that study, they highlighted that as the risk parameter increased in weight, the optimality gap increased. A similar trend could be expected for the models presented in this paper.

In the model presented, an assumption was made that risk preferences would remain constant. For the short term, this assumption may hold. For a long time horizon (such as the time horizon in forest management) risk preferences may change according to the life situation of the decision maker. The simplest method to manage this change is that once the decision maker realizes his/her risk preferences have changed, is to create an updated forest management plan. If the decision maker can predict how his/her risk preferences will change over the time horizon, these could be integrated into the model by adding a time script to the risk parameter λ . Additionally, different risk measures may be preferable to the decision maker. For instance, if a decision maker could specify how to penalize losses, a stochastic goal programming approach may be more suitable (Eyvindson and Kangas 2014)

More complex recourse possibilities than just fixed recourse could be included into the model. The choice of the recourse depends upon resolving some of the uncertainty in the problem, and taking different decisions depending on how the uncertainty was resolved. One option of recourse could be to allow for the conduct of a new forest inventory prior to making a decision on which silvicultural or harvesting actions to take during the next period. Another option for recourse could be a multi-stage stochastic program, where the timber price uncertainty is resolved prior to each decision. Including adjustable recourse options into the stochastic program involve additional complexities which make the problem larger, and require more computational resources to solve. The decision to incorporate more complex recourse options should be balanced with when the uncertainty will be resolved. For instance,

1 one method of incorporating resolved first period price uncertainty could be to re-run this model,
2 setting the first period price and cost vectors to be the same for all scenarios.

3 Incorporation of the CVaR into the optimization process allows the decision maker the option to
4 manage the negative expectations of not achieving specific goals. This requires additional information
5 about the accuracy of the inventory, prediction models and the future price of timber. This information
6 is either generally available (inventory errors), or can be modeled based on historical data (growth and
7 price models). By incorporating risk measures, the decision maker has the opportunity to be protected
8 from extreme losses and allows for the opportunity to provide the decision maker a more
9 comprehensive view of the potential future outcomes of the management decisions. In this study, we
10 did not assess the decision maker's ability to correctly identify their risk preferences, so we cannot
11 assess the value of using the 'correct' risk preferences. However, through an interactive process, the
12 decision makers could identify their risk preferences and compare the results of different solutions
13 (Miettinen et al. 2014).

14 Developing forest management plans which include the CVaR allows for a theoretically sound method
15 of managing risks. From a methodological perspective, the CVaR is relatively easy to implement, and
16 can be integrated into the optimization model either in the constraints or in the objective function.
17 Ultimately, the objective of risk management is not to eliminate losses, but to manage them in an
18 efficient and appropriate manner according to the preferences of the decision maker.

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Symbol	Definition
Variables	
b_t	Target income for period t
C_{jkt}	Vector of silvicultural activities conducted for stand j managed according to schedule k at period t
$CVaR_t$	Conditional Value at Risk for period t
$\mathbb{E}$	Expectation Value
H_{jkt}	Vector of timber assortments harvested for stand j managed according to schedule k at period t
H_{njkt}	Vector of timber assortments harvested for scenario n at stand j managed according to schedule k at period t
I_t	Income at period t
I_{nt}	Income for scenario n at period t
L_t	Losses at period t
L_{nt}	Losses for scenario n at period t
NPV	Net Present Value
NPV_n	Net Present Value for scenario n
p_n	Probability of scenario n occurring
PE_t	Vector of silvicultural prices for period t
PE_{nt}	Vector of silvicultural prices for scenario n at period t
PT_t	Vector of timber prices for period t
PT_{nt}	Vector of timber prices for scenario n at period t
PV_{jk6}	Productive value for stand j managed according to schedule k at the end period
PV_{nj6}	Productive value for scenario n at stand j managed according to schedule k at the end period
T	Total number of periods under consideration
x_{jk}	proportion of stand j managed according to schedule k
Z_t	Value at Risk for period t
Parameters	
r	Discount rate
u	Timing of the operations during the period
α	Confidence level for the Value at Risk
λ	Risk coefficient

Table 1. A list of the notation used throughout the paper.

	Sawlogs			Pulpwood		
	Pine	Spruce	Birch	Pine	Spruce	Birch
φ	0.512	0.489	0.04	0.697	0.397	0.885
σ^2	0.014	0.014	0.009	0.029	0.018	0.047
€/m ³	57.75	57.50	47.25	30.00	30.75	31.00

1

2 **Table 2.** The parameters for the AR(1) price model (Leskinen and Kangas 1998), and the initial timber

3 prices for the timber assortments (RISI 2014)

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- 1 **Figure 1.** A normally distributed (mean of 0, standard deviation of 1) graphical representation of
2 Conditional Value at Risk and Value at Risk when $\alpha = 0.95$. Shaded portion of the graph represents the
3 losses greater than the VaR.

4

1 7

2 **Figure 2.** (a) the holding level age-class distribution of the holding at the beginning of the planning
3 period; and (b) the holding level diameter distribution at 1.3 m height at the beginning of the planning
4 period (Eyvindson and Kangas 2015b).

5
6

- 1 **Figure 3.** The expected result of the Net Present value and maximum periodic Conditional Value at Risk for three different discount rates, three different confidence levels for the Value at Risk (α) while
 2 Risk for three different discount rates, three different confidence levels for the Value at Risk (α) while
 3 varying λ from 0.05 to 5. The values with lower NPV and CVaR have a higher λ . The top panel is
 4 evaluated using eq [6A], and the bottom panel is evaluated using eq [6B]

5

1 **Figure 4.** The change value of the stochastic solution when considering the minimizing the average
2 CVaR (the percentage difference from the solution provided by Eqs 6 and the EEV solution using the
3 set of solutions $(\bar{x}_{jk})$ from Eq 1). The top panel is evaluated using the **A** variants of the equations, while
4 the bottom panel is evaluated using the **B** variants of the equations.

5

6

Equation	interest	Lambda	Alpha	NPV_avera	CVaR_1	CVaR_2	CVaR_3	CVaR_4
1A	0.01	0.05	0.8	523116	60000	60000	24426.6	6384.97
1A	0.01	0.1	0.8	523951	58955.8	59992	27200.4	7961.68
1A	0.01	0.2	0.8	520445	47695.5	47744.5	49201.8	12551.3
1A	0.01	0.3	0.8	520408	45545.6	44605.3	47581.4	13288.5
1A	0.01	0.4	0.8	516959	39913.8	41272.8	43315.5	14579.4
1A	0.01	0.5	0.8	511774	31070.2	35885	35647.8	15238.4
1A	0.01	0.6	0.8	508180	26234.9	29398.4	30422.2	22660.8
1A	0.01	0.7	0.8	502823	18166	21287.4	22964	27607.4
1A	0.01	0.8	0.8	500095	14701.7	18283.8	19159.1	27826.8
1A	0.01	0.9	0.8	500095	14701.7	18277.3	19164.7	27823.2
1A	0.01	1	0.8	500095	14701.7	18289.7	19184.8	27823.7
1A	0.01	1.2	0.8	500095	14671.4	18265.5	19160.7	27823.2
1A	0.01	1.4	0.8	500095	14701.7	18267.5	19167.9	27851
1A	0.01	1.6	0.8	500095	14701.7	18273.1	19167.9	27825.7
1A	0.01	1.8	0.8	500095	14701.7	18270.5	19164	27823.8
1A	0.01	2	0.8	500095	14701.7	18298.6	19184.8	27843.8
1A	0.01	2.5	0.8	500095	14682.4	18273	19156.7	27826.8
1A	0.01	3	0.8	500095	14684	18268.3	19163.2	27826.8
1A	0.01	3.5	0.8	500095	14701.7	18298.6	19184.8	27827.6
1A	0.01	4	0.8	500095	14667.3	18265.4	19186.6	27855.7
1A	0.01	4.5	0.8	500095	14667.3	18265.4	19186.6	27855.7
1A	0.01	5	0.8	500095	14701.7	18287.3	19167.9	27828.8
1A	0.02	0.05	0.8	416455	36789.4	39814.5	23524.1	0
1A	0.02	0.1	0.8	415823	30614.6	33902.2	38676.1	0
1A	0.02	0.2	0.8	414536	24909.3	28039.5	31529.7	0
1A	0.02	0.3	0.8	414001	16523.4	18391.3	23248	946.516
1A	0.02	0.4	0.8	413891	14781.7	16920.6	21532.1	1757.3
1A	0.02	0.5	0.8	413891	14776.6	16907.1	21520.2	1757.3
1A	0.02	0.6	0.8	413891	14781.7	16957.7	21534.2	1757.3
1A	0.02	0.7	0.8	413891	14781.7	16941.9	21522.2	1757.3
1A	0.02	0.8	0.8	413891	14753.6	16903.9	21559.3	1757.3
1A	0.02	0.9	0.8	413891	14773.6	16921.2	21522.5	1757.3
1A	0.02	1	0.8	413891	14779.3	16920.3	21519.4	1757.3
1A	0.02	1.2	0.8	413891	14757.5	16904.4	21522.2	1757.3
1A	0.02	1.4	0.8	413891	14781.7	16957.7	21529.7	1757.3
1A	0.02	1.6	0.8	413891	14764.3	16920.3	21526.2	1757.3
1A	0.02	1.8	0.8	413891	14772.2	16934.5	21533.9	1757.3
1A	0.02	2	0.8	413891	14761.6	16904.7	21519.4	1757.3
1A	0.02	2.5	0.8	413891	14768.6	16911.1	21521.9	1757.3
1A	0.02	3	0.8	413891	14781.7	16957.7	21552.2	1757.3
1A	0.02	3.5	0.8	413891	14773.6	16912.5	21524.5	1757.3
1A	0.02	4	0.8	413891	14781.7	16920.3	21519.4	1757.3
1A	0.02	4.5	0.8	413891	14781.7	16912.4	21519.4	1757.3
1A	0.02	5	0.8	413891	14781.7	16956.7	21552.2	1757.3
1A	0.03	0.05	0.8	348392	16556.8	14642.7	13289.1	6656.25
1A	0.03	0.1	0.8	348223	14766.4	16384	13589.9	6632.26

1A	0.03	0.2	0.8	348223	14755.5	16382.9	13590.5	6632.26
1A	0.03	0.3	0.8	348223	14755.5	16382.7	13591.7	6621.07
1A	0.03	0.4	0.8	348223	14754.8	16381.4	13592.8	6606.98
1A	0.03	0.5	0.8	348223	14781.7	16389	13632.4	6656.25
1A	0.03	0.6	0.8	348223	14753.6	16380.3	13589	6605.91
1A	0.03	0.7	0.8	348223	14767.5	16383.5	13605.3	6656.25
1A	0.03	0.8	0.8	348223	14781.7	16389.9	13604.8	6623.79
1A	0.03	0.9	0.8	348223	14766.4	16383.5	13591.5	6612.39
1A	0.03	1	0.8	348223	14781.7	16389.9	13607.9	6656.25
1A	0.03	1.2	0.8	348223	14781.7	16417.9	13632.4	6656.25
1A	0.03	1.4	0.8	348223	14767.5	16382.7	13589	6644.8
1A	0.03	1.6	0.8	348223	14753.6	16380.3	13589	6605.95
1A	0.03	1.8	0.8	348223	14770.9	16402.6	13592.5	6656.25
1A	0.03	2	0.8	348223	14757.6	16380.7	13597.8	6623.45
1A	0.03	2.5	0.8	348223	14781.7	16417.9	13600.9	6650.79
1A	0.03	3	0.8	348223	14776.6	16395.1	13592.5	6606.51
1A	0.03	3.5	0.8	348223	14757.6	16380.7	13589	6609.08
1A	0.03	4	0.8	348223	14765.2	16381.4	13591.4	6656.25
1A	0.03	4.5	0.8	348223	14781.7	16386.1	13589	6617.35
1A	0.03	5	0.8	348223	14761.6	16389	13596.7	6644.8
1A	0.01	0.05	0.9	523116	60000	60000	27560.5	10365.2
1A	0.01	0.1	0.9	523951	59060.6	60000	30130.1	11858.2
1A	0.01	0.2	0.9	520445	48846	49020.1	50548.2	16178.1
1A	0.01	0.3	0.9	520408	46827.2	45922.4	48986.5	16875.8
1A	0.01	0.4	0.9	516959	41415.2	42964.3	45046.5	18116.3
1A	0.01	0.5	0.9	511774	33056.3	38072.5	37842	18732.6
1A	0.01	0.6	0.9	508180	28663.3	31807.6	33026.8	25778.2
1A	0.01	0.7	0.9	502823	21248.2	24094.6	26150.4	29884.2
1A	0.01	0.8	0.9	500095	18069.7	21294.6	22274.1	30519.9
1A	0.01	0.9	0.9	500095	18069.7	21285.8	22267.3	30517.6
1A	0.01	1	0.9	500095	18069.7	21297.9	22301	30543.7
1A	0.01	1.2	0.9	500095	18069.7	21297.9	22301	30543.7
1A	0.01	1.4	0.9	500095	18056.2	21285.6	22290.9	30540.6
1A	0.01	1.6	0.9	500095	18069.7	21297.9	22268.5	30519
1A	0.01	1.8	0.9	500095	18069.7	21294.7	22280	30522.5
1A	0.01	2	0.9	500095	18069.7	21294.7	22280	30522.5
1A	0.01	2.5	0.9	500095	18069.7	21297.9	22301	30541.7
1A	0.01	3	0.9	500095	18069.7	21293.2	22274.1	30517.6
1A	0.01	3.5	0.9	500095	18056.2	21285.6	22290.9	30540.6
1A	0.01	4	0.9	500095	18069.7	21297.9	22273.4	30517.6
1A	0.01	4.5	0.9	500095	18057	21293.2	22267.7	30517.8
1A	0.01	5	0.9	500095	18069.7	21297.9	22301	30543.7
1A	0.02	0.05	0.9	416455	38398	41619.5	26828.6	0
1A	0.02	0.1	0.9	415837	32676.1	36009.8	41145.4	0
1A	0.02	0.2	0.9	414536	27448.9	30541.5	34396.5	0
1A	0.02	0.3	0.9	414001	19757.6	21528.6	26811.2	1893.03
1A	0.02	0.4	0.9	413891	18172.4	20046.1	25138.8	3514.59

1A	0.02	0.5	0.9	413886	18158.9	20021.9	25119.8	3514.59
1A	0.02	0.6	0.9	413891	18166.9	20029.9	25100.4	3514.59
1A	0.02	0.7	0.9	413886	18158.9	20021.9	25119.8	3514.59
1A	0.02	0.8	0.9	413891	18172.4	20030.8	25099.9	3514.59
1A	0.02	0.9	0.9	413891	18172.4	20046.1	25110.6	3514.59
1A	0.02	1	0.9	413891	18172.4	20021.9	25099.9	3514.59
1A	0.02	1.2	0.9	413891	18165.4	20025.7	25105.8	3514.59
1A	0.02	1.4	0.9	413891	18159.9	20028.6	25127.7	3514.59
1A	0.02	1.6	0.9	413891	18172.4	20046.1	25138.8	3514.59
1A	0.02	1.8	0.9	413891	18172.4	20032.4	25119.7	3514.59
1A	0.02	2	0.9	413891	18172.4	20028.6	25101.3	3514.59
1A	0.02	2.5	0.9	413891	18159	20022.5	25099.9	3514.59
1A	0.02	3	0.9	413891	18171.4	20025.7	25101.3	3514.59
1A	0.02	3.5	0.9	413891	18172.4	20028.6	25101.7	3514.59
1A	0.02	4	0.9	413875	18163.8	20045.2	25099.9	3514.59
1A	0.02	4.5	0.9	413891	18158.9	20021.9	25099.9	3514.59
1A	0.02	5	0.9	413891	18172.4	20023.7	25099.9	3514.59
1A	0.03	0.05	0.9	348392	19792.2	18013.6	17224.6	10639.1
1A	0.03	0.1	0.9	348223	18172.4	19645.6	17542.4	10676.4
1A	0.03	0.2	0.9	348221	18161.6	19624.6	17511.9	10640.5
1A	0.03	0.3	0.9	348223	18172.4	19645.6	17542.4	10676.4
1A	0.03	0.4	0.9	348221	18172.4	19633.3	17515.3	10655.9
1A	0.03	0.5	0.9	348223	18159	19623.7	17542.4	10639.8
1A	0.03	0.6	0.9	348220	18172.4	19623.7	17512.4	10638.2
1A	0.03	0.7	0.9	348223	18172.4	19645.6	17542.4	10676.4
1A	0.03	0.8	0.9	348223	18172.4	19645.6	17542.4	10676.4
1A	0.03	0.9	0.9	348221	18172.4	19645.5	17512	10638.2
1A	0.03	1	0.9	348223	18172.4	19628.9	17517.9	10676.4
1A	0.03	1.2	0.9	348223	18172.4	19634.4	17516.8	10655.9
1A	0.03	1.4	0.9	348223	18161.6	19625	17515.3	10639.1
1A	0.03	1.6	0.9	348223	18172.4	19633.3	17515.4	10655.9
1A	0.03	1.8	0.9	348223	18172.4	19640.6	17517.9	10639.6
1A	0.03	2	0.9	348223	18158.9	19624.2	17511.9	10638.2
1A	0.03	2.5	0.9	348223	18172.4	19645.6	17542.4	10676.4
1A	0.03	3	0.9	348223	18172.4	19634.4	17516	10639.1
1A	0.03	3.5	0.9	348223	18172.4	19645.6	17542.4	10676.4
1A	0.03	4	0.9	348223	18172.4	19628.9	17522.4	10643.7
1A	0.03	4.5	0.9	348221	18161.7	19624.7	17515.4	10658.6
1A	0.03	5	0.9	348221	18172.4	19628.9	17515.4	10646.7
1A	0.01	0.05	0.95	523116	60000	60000	30071.7	14077.2
1A	0.01	0.1	0.95	523951	59144	60000	32587.4	15474.3
1A	0.01	0.2	0.95	520445	49698.5	50100.3	51534.5	19537.4
1A	0.01	0.3	0.95	520408	47816.7	47040.1	49918.8	20201
1A	0.01	0.4	0.95	516959	42691.5	44349.1	46317.2	21355.1
1A	0.01	0.5	0.95	511774	34715.9	39588.8	39779.3	21989.8
1A	0.01	0.6	0.95	508180	30631.4	33419.1	35391.4	28373
1A	0.01	0.7	0.95	502823	23754.3	26190.8	29030.5	31974.4

1A	0.01	0.8	0.95	500095	20847.8	23742.9	25085.8	32684.2
1A	0.01	0.9	0.95	500095	20852.7	23771.1	25100	32699.4
1A	0.01	1	0.95	500095	20852.7	23736.7	25080.8	32684.1
1A	0.01	1.2	0.95	500095	20835.1	23735.7	25097.5	32698.5
1A	0.01	1.4	0.95	500095	20835.1	23735.7	25080.8	32684.1
1A	0.01	1.6	0.95	500095	20835.1	23735.7	25097.5	32698.5
1A	0.01	1.8	0.95	500095	20852.7	23742.9	25083.5	32684.9
1A	0.01	2	0.95	500095	20838.8	23735.7	25080.8	32684.1
1A	0.01	2.5	0.95	500095	20852.7	23771.1	25100	32699.9
1A	0.01	3	0.95	500095	20835.1	23735.7	25097.5	32698.5
1A	0.01	3.5	0.95	500095	20838.8	23744.8	25080.8	32684.1
1A	0.01	4	0.95	500095	20841.6	23737.4	25088.9	32684.1
1A	0.01	4.5	0.95	500095	20835.1	23735.7	25097.5	32698.5
1A	0.01	5	0.95	500095	20835.1	23735.7	25097.5	32698.5
1A	0.02	0.05	0.95	416455	39728.3	43010.3	29651.2	0
1A	0.02	0.1	0.95	415837	34344.5	37555.1	43357.4	0
1A	0.02	0.2	0.95	414528	29493.6	32347.2	36701.6	0
1A	0.02	0.3	0.95	414001	22379.7	23763.5	29731.4	3786.07
1A	0.02	0.4	0.95	413891	20928.8	22379.2	28133.2	6922.35
1A	0.02	0.5	0.95	413891	20945	22381.7	28116	6905.59
1A	0.02	0.6	0.95	413891	20928.8	22379.2	28116.4	6905.59
1A	0.02	0.7	0.95	413891	20930.5	22379.2	28116	6903.76
1A	0.02	0.8	0.95	413891	20928.8	22379.2	28133.2	6922.35
1A	0.02	0.9	0.95	413891	20955	22381.7	28116.2	6918.67
1A	0.02	1	0.95	413891	20944	22380.4	28116	6903.62
1A	0.02	1.2	0.95	413891	20928.8	22379.2	28116	6903.76
1A	0.02	1.4	0.95	413891	20955	22388.8	28116.4	6903.76
1A	0.02	1.6	0.95	413891	20955	22388.8	28116.4	6903.76
1A	0.02	1.8	0.95	413891	20928.8	22379.2	28116	6903.76
1A	0.02	2	0.95	413891	20928.8	22380.4	28116	6939.86
1A	0.02	2.5	0.95	413891	20950.2	22379.2	28116	6903.62
1A	0.02	3	0.95	413891	20955	22416.6	28132.4	6943.24
1A	0.02	3.5	0.95	413891	20945.9	22379.2	28116	6903.62
1A	0.02	4	0.95	413891	20928.8	22379.2	28116	6903.62
1A	0.02	4.5	0.95	413891	20955	22379.2	28116	6903.62
1A	0.02	5	0.95	413891	20955	22416.6	28132.4	6943.24
1A	0.03	0.05	0.95	348389	22429.8	20604.5	20885.1	14022.3
1A	0.03	0.1	0.95	348223	20928.8	22097.2	21170.9	14041.8
1A	0.03	0.2	0.95	348223	20955	22109.7	21159.1	14046.1
1A	0.03	0.3	0.95	348216	20945	22097.2	21140.5	14022.8
1A	0.03	0.4	0.95	348216	20930.5	22097.2	21140.5	14022.3
1A	0.03	0.5	0.95	348216	20955	22097.2	21140.7	14022.3
1A	0.03	0.6	0.95	348216	20945	22097.2	21140.5	14022.3
1A	0.03	0.7	0.95	348216	20930.5	22109.7	21140.5	14022.3
1A	0.03	0.8	0.95	348223	20955	22109.7	21159.1	14046.1
1A	0.03	0.9	0.95	348216	20944	22098.4	21140.5	14022.3
1A	0.03	1	0.95	348216	20928.8	22098.4	21140.5	14025.7

1A	0.03	1.2	0.95	348216	20928.8	22097.2	21144.3	14022.3
1A	0.03	1.4	0.95	348223	20928.8	22097.2	21140.5	14022.3
1A	0.03	1.6	0.95	348223	20955	22109.7	21159.1	14046.1
1A	0.03	1.8	0.95	348216	20928.8	22109.7	21140.5	14022.3
1A	0.03	2	0.95	348223	20955	22109.7	21159.1	14046.1
1A	0.03	2.5	0.95	348216	20955	22097.2	21140.5	14022.3
1A	0.03	3	0.95	348216	20955	22099.6	21140.5	14022.3
1A	0.03	3.5	0.95	348216	20955	22097.2	21140.5	14022.3
1A	0.03	4	0.95	348216	20955	22106.3	21145.5	14037.8
1A	0.03	4.5	0.95	348216	20928.8	22097.2	21140.5	14022.3
1A	0.03	5	0.95	348216	20955	22101.9	21145.5	14037.8

Equation	interest	Lambda	Alpha	NPV_avera	CVaR_1	CVaR_2	CVaR_3	CVaR_4
1B	0.01	0.05	0.8	523116	60000	60000	24426.6	6349.47
1B	0.01	0.1	0.8	523116	60000	60000	24426.6	6348.22
1B	0.01	0.2	0.8	523116	60000	60000	24426.6	6357.76
1B	0.01	0.3	0.8	523032	60000	60000	19079.8	6352.23
1B	0.01	0.4	0.8	523032	60000	60000	19079.8	6352.23
1B	0.01	0.5	0.8	522995	60000	58642	19079.8	6378.91
1B	0.01	0.6	0.8	521854	55271.4	58741.2	19097.7	13881.7
1B	0.01	0.7	0.8	520083	58478.2	42379.8	19739.5	14185.7
1B	0.01	0.8	0.8	518981	55271.4	42379.8	19233.9	14304.4
1B	0.01	0.9	0.8	514795	55271.4	22043.4	20421.6	19199.4
1B	0.01	1	0.8	514434	55271.4	18777.2	20458.4	21754.4
1B	0.01	1.2	0.8	514425	55271.4	18777.2	20458.4	21754.4
1B	0.01	1.4	0.8	514068	53535.3	18777.2	20468.7	23438.6
1B	0.01	1.6	0.8	511918	48225.1	18777.2	19278.8	23555.6
1B	0.01	1.8	0.8	508831	38995.1	19272.3	19371.4	23101.6
1B	0.01	2	0.8	505660	29173.1	19776.9	19131.8	26109.2
1B	0.01	2.5	0.8	500095	14667.3	18265.4	19156.6	27822.7
1B	0.01	3	0.8	500095	14667.3	18265.4	19156.6	27822.7
1B	0.01	3.5	0.8	500095	14667.3	18265.4	19156.6	27822.7
1B	0.01	4	0.8	500095	14667.3	18265.4	19156.6	27822.7
1B	0.01	4.5	0.8	500095	14667.3	18265.4	19156.6	27822.7
1B	0.01	5	0.8	500095	14667.3	18265.4	19156.6	27822.7
1B	0.02	0.05	0.8	416545	55271.4	22645.5	21677.7	0
1B	0.02	0.1	0.8	416364	55271.4	23099.1	21368.8	0
1B	0.02	0.2	0.8	415653	48225.1	17639.1	20854.3	0
1B	0.02	0.3	0.8	415653	48225.1	17639.1	20854.3	0
1B	0.02	0.4	0.8	415420	42802.4	17619.9	21468.2	0
1B	0.02	0.5	0.8	415225	36769.7	19703.9	21499.3	4.12903
1B	0.02	0.6	0.8	414818	33211.5	19395.1	21496.9	37.0341
1B	0.02	0.7	0.8	414818	33211.5	19395.1	21496.9	37.0341
1B	0.02	0.8	0.8	414818	33211.5	19395.1	21496.9	37.0341
1B	0.02	0.9	0.8	414282	19949.8	17342.5	21203.2	887.682
1B	0.02	1	0.8	413972	16551.9	17022.8	21541.4	1353.1
1B	0.02	1.2	0.8	413891	14753.6	16903.9	21519.4	1757.3

1B	0.02	1.4	0.8	413891	14753.6	16903.9	21519.4	1757.3
1B	0.02	1.6	0.8	413891	14753.6	16903.9	21519.4	1757.3
1B	0.02	1.8	0.8	413891	14753.6	16903.9	21519.4	1757.3
1B	0.02	2	0.8	413891	14753.6	16903.9	21519.4	1757.3
1B	0.02	2.5	0.8	413891	14753.6	16903.9	21519.4	1757.3
1B	0.02	3	0.8	413891	14753.6	16903.9	21519.4	1757.3
1B	0.02	3.5	0.8	413891	14753.6	16903.9	21519.4	1757.3
1B	0.02	4	0.8	413891	14753.6	16903.9	21519.4	1757.3
1B	0.02	4.5	0.8	413891	14753.6	16903.9	21519.4	1757.3
1B	0.02	5	0.8	413891	14753.6	16903.9	21519.4	1757.3
1B	0.03	0.05	0.8	348702	16551.9	14642.2	12754.7	6613.05
1B	0.03	0.1	0.8	348702	16551.9	14642.2	12754.7	6609.08
1B	0.03	0.2	0.8	348684	14753.6	16380.3	12808.2	6612.39
1B	0.03	0.3	0.8	348223	14753.6	16380.3	13589	6609.08
1B	0.03	0.4	0.8	348223	14753.6	16380.3	13589	6612.39
1B	0.03	0.5	0.8	348208	14753.6	16380.3	13589	6612.39
1B	0.03	0.6	0.8	348223	14753.6	16380.3	13589	6613.05
1B	0.03	0.7	0.8	348223	14753.6	16380.3	13589	6617.35
1B	0.03	0.8	0.8	348223	14753.6	16380.3	13589	6609.08
1B	0.03	0.9	0.8	348208	14753.6	16380.3	13589	6617.35
1B	0.03	1	0.8	348223	14753.6	16380.3	13589	6612.39
1B	0.03	1.2	0.8	348223	14753.6	16380.3	13589	6609.08
1B	0.03	1.4	0.8	348223	14753.6	16380.3	13589	6609.08
1B	0.03	1.6	0.8	348223	14753.6	16380.3	13589	6608.2
1B	0.03	1.8	0.8	348223	14753.6	16380.3	13589	6609.08
1B	0.03	2	0.8	348223	14753.6	16380.3	13589	6617.35
1B	0.03	2.5	0.8	348208	14753.6	16380.3	13589	6613.05
1B	0.03	3	0.8	348223	14753.6	16380.3	13589	6609.08
1B	0.03	3.5	0.8	348208	14753.6	16380.3	13589	6613.05
1B	0.03	4	0.8	348223	14753.6	16380.3	13589	6612.39
1B	0.03	4.5	0.8	348208	14753.6	16380.3	13589	6612.39
1B	0.03	5	0.8	348223	14753.6	16380.3	13589	6609.08
1B	0.01	0.05	0.9	523116	60000	60000	27559.4	10365.2
1B	0.01	0.1	0.9	523116	60000	60000	27559.4	10365.2
1B	0.01	0.2	0.9	523116	60000	60000	27559.4	10365.2
1B	0.01	0.3	0.9	523032	60000	60000	22292	10365.2
1B	0.01	0.4	0.9	523032	60000	60000	22292	10365.2
1B	0.01	0.5	0.9	522995	60000	58790.7	22292	10394.6
1B	0.01	0.6	0.9	521854	55745.8	58879.2	22313.8	17417.5
1B	0.01	0.7	0.9	520083	58630.9	43791.3	23127.2	17721.5
1B	0.01	0.8	0.9	518981	55745.8	43791.3	22668.6	17840.2
1B	0.01	0.9	0.9	514788	55745.9	25019.4	23767.2	22424.1
1B	0.01	1	0.9	514434	55745.8	21833.6	23774.1	24851.2
1B	0.01	1.2	0.9	514434	55745.8	21833.6	23774.1	24851.2
1B	0.01	1.4	0.9	514068	54124.6	21833.6	23814.4	26474.1
1B	0.01	1.6	0.9	511918	49341.5	21833.6	22596.6	26591.1
1B	0.01	1.8	0.9	508831	40513.4	22415.5	22688.9	26169.6

1B	0.01	2	0.9	505660	31205.4	23046.8	22265.8	28900.6
1B	0.01	2.5	0.9	500095	18056.2	21285.6	22267.1	30517.6
1B	0.01	3	0.9	500095	18056.2	21285.6	22267.1	30517.6
1B	0.01	3.5	0.9	500095	18056.2	21285.6	22267.1	30517.6
1B	0.01	4	0.9	500095	18056.2	21285.6	22267.1	30517.6
1B	0.01	4.5	0.9	500095	18056.2	21285.6	22267.1	30517.6
1B	0.01	5	0.9	500095	18056.2	21285.6	22267.1	30517.6
1B	0.02	0.05	0.9	416545	55745.8	25295.1	25224.3	0
1B	0.02	0.1	0.9	416364	55745.8	25711.2	24904.6	0
1B	0.02	0.2	0.9	415653	49341.5	20645.1	24346.6	0
1B	0.02	0.3	0.9	415653	49341.5	20645.1	24346.6	0
1B	0.02	0.4	0.9	415420	44251.6	20620.6	25056.4	0
1B	0.02	0.5	0.9	415225	38386.6	22901.2	25094.5	8.25806
1B	0.02	0.6	0.9	414818	35019.9	22648.3	25070.4	74.0683
1B	0.02	0.7	0.9	414818	35019.9	22648.3	25070.4	74.0683
1B	0.02	0.8	0.9	414818	35019.9	22648.3	25070.4	74.0683
1B	0.02	0.9	0.9	414282	22869.2	20622.4	24860.2	1775.36
1B	0.02	1	0.9	413972	19790.2	20178.1	25125.1	2706.21
1B	0.02	1.2	0.9	413891	18158.9	20021.9	25099.9	3514.59
1B	0.02	1.4	0.9	413891	18158.9	20021.9	25099.9	3514.59
1B	0.02	1.6	0.9	413891	18158.9	20021.9	25099.9	3514.59
1B	0.02	1.8	0.9	413891	18158.9	20021.9	25099.9	3514.59
1B	0.02	2	0.9	413891	18158.9	20021.9	25099.9	3514.59
1B	0.02	2.5	0.9	413871	18158.9	20021.9	25099.9	3514.59
1B	0.02	3	0.9	413891	18158.9	20021.9	25099.9	3514.59
1B	0.02	3.5	0.9	413891	18158.9	20021.9	25099.9	3514.59
1B	0.02	4	0.9	413875	18158.9	20021.9	25099.9	3514.59
1B	0.02	4.5	0.9	413871	18158.9	20021.9	25099.9	3514.59
1B	0.02	5	0.9	413891	18158.9	20021.9	25099.9	3514.59
1B	0.03	0.05	0.9	348702	19790.2	18013.4	16749.1	10638.2
1B	0.03	0.1	0.9	348702	19790.2	18013.4	16749.1	10638.2
1B	0.03	0.2	0.9	348684	18158.9	19623.7	16802.6	10638.2
1B	0.03	0.3	0.9	348223	18158.9	19623.7	17511.7	10638.2
1B	0.03	0.4	0.9	348223	18158.9	19623.7	17511.7	10638.2
1B	0.03	0.5	0.9	348223	18158.9	19623.7	17511.7	10638.2
1B	0.03	0.6	0.9	348223	18158.9	19623.7	17511.7	10638.2
1B	0.03	0.7	0.9	348223	18158.9	19623.7	17511.7	10638.2
1B	0.03	0.8	0.9	348223	18158.9	19623.7	17511.7	10638.2
1B	0.03	0.9	0.9	348223	18158.9	19623.7	17511.7	10638.2
1B	0.03	1	0.9	348223	18158.9	19623.7	17511.7	10638.2
1B	0.03	1.2	0.9	348223	18158.9	19623.7	17511.7	10638.2
1B	0.03	1.4	0.9	348223	18158.9	19623.7	17511.7	10638.2
1B	0.03	1.6	0.9	348221	18158.9	19623.7	17511.7	10638.2
1B	0.03	1.8	0.9	348223	18158.9	19623.7	17511.7	10638.2
1B	0.03	2	0.9	348223	18158.9	19623.7	17511.7	10638.2
1B	0.03	2.5	0.9	348223	18158.9	19623.7	17511.7	10638.2
1B	0.03	3	0.9	348223	18158.9	19623.7	17511.7	10638.2

1B	0.03	3.5	0.9	348223	18158.9	19623.7	17511.7	10638.2
1B	0.03	4	0.9	348223	18158.9	19623.7	17511.7	10638.2
1B	0.03	4.5	0.9	348223	18158.9	19623.7	17511.7	10638.2
1B	0.03	5	0.9	348223	18158.9	19623.7	17511.7	10638.2
1B	0.01	0.05	0.95	523116	60000	60000	30067	14059.3
1B	0.01	0.1	0.95	523116	60000	60000	30067	14059.3
1B	0.01	0.2	0.95	523116	60000	60000	30067	14059.3
1B	0.01	0.3	0.95	523032	60000	60000	24686.5	14059.3
1B	0.01	0.4	0.95	523032	60000	60000	24686.5	14059.3
1B	0.01	0.5	0.95	522995	60000	58892	24686.5	14088.7
1B	0.01	0.6	0.95	521854	56120.5	58973.1	24706.2	20657.4
1B	0.01	0.7	0.95	520083	58751.4	44908.1	26002.1	20961.4
1B	0.01	0.8	0.95	518981	56120.4	44908.1	25561.9	21080.1
1B	0.01	0.9	0.95	514795	56120.4	27151.7	26489.5	25296.3
1B	0.01	1	0.95	514434	56120.4	24110.1	26585	27514
1B	0.01	1.2	0.95	514434	56120.4	24110.1	26585	27514
1B	0.01	1.4	0.95	514068	54604	24110.1	26609.3	29002
1B	0.01	1.6	0.95	511918	50170.1	24110.1	25491.6	29119
1B	0.01	1.8	0.95	508831	41808.2	24665.7	25712.6	28740.4
1B	0.01	2	0.95	505660	32790.2	25332.4	25123.1	31393.3
1B	0.01	2.5	0.95	500095	20835.1	23735.7	25080.8	32684.1
1B	0.01	3	0.95	500095	20835.1	23735.7	25080.8	32684.1
1B	0.01	3.5	0.95	500095	20835.1	23735.7	25080.8	32684.1
1B	0.01	4	0.95	500095	20835.1	23735.7	25080.8	32684.1
1B	0.01	4.5	0.95	500095	20835.1	23735.7	25080.8	32684.1
1B	0.01	5	0.95	500095	20835.1	23735.7	25080.8	32684.1
1B	0.02	0.05	0.95	416545	56120.4	27258.9	28241.4	0
1B	0.02	0.1	0.95	416362	56120.5	27660	27894.8	0
1B	0.02	0.2	0.95	415653	50170.1	22831.8	27323.3	0
1B	0.02	0.3	0.95	415653	50170.1	22831.8	27323.3	0
1B	0.02	0.4	0.95	415414	45471.6	22813.7	28061.5	0
1B	0.02	0.5	0.95	415225	39725	25227.9	28104.9	16.5161
1B	0.02	0.6	0.95	414818	36517.4	24855.7	28078	148.137
1B	0.02	0.7	0.95	414818	36517.4	24855.7	28078	148.137
1B	0.02	0.8	0.95	414818	36517.4	24855.7	28078	148.137
1B	0.02	0.9	0.95	414282	25221.6	22837	27789.1	3550.73
1B	0.02	1	0.95	413972	22429.8	22514.3	28143.5	5412.42
1B	0.02	1.2	0.95	413891	20928.8	22379.2	28116	6903.76
1B	0.02	1.4	0.95	413891	20928.8	22379.2	28116	6903.62
1B	0.02	1.6	0.95	413891	20928.8	22379.2	28116	6903.62
1B	0.02	1.8	0.95	413889	20928.8	22379.2	28116	6907.36
1B	0.02	2	0.95	413891	20928.8	22379.2	28116	6903.62
1B	0.02	2.5	0.95	413891	20928.8	22379.2	28116	6903.76
1B	0.02	3	0.95	413891	20928.8	22379.2	28116	6907.36
1B	0.02	3.5	0.95	413891	20928.8	22379.2	28116	6903.76
1B	0.02	4	0.95	413891	20928.8	22379.2	28116	6903.62
1B	0.02	4.5	0.95	413889	20928.8	22379.2	28116	6905.59

1B	0.02	5	0.95	413891	20928.8	22379.2	28116	6903.62
1B	0.03	0.05	0.95	348691	22429.8	20580.5	20477.7	14022.3
1B	0.03	0.1	0.95	348702	22429.8	20580.5	20477.7	14022.3
1B	0.03	0.2	0.95	348684	20928.8	22097.2	20531.3	14022.3
1B	0.03	0.3	0.95	348223	20928.8	22097.2	21140.5	14022.3
1B	0.03	0.4	0.95	348223	20928.8	22097.2	21140.5	14022.3
1B	0.03	0.5	0.95	348223	20928.8	22097.2	21140.5	14022.3
1B	0.03	0.6	0.95	348223	20928.8	22097.2	21140.5	14022.3
1B	0.03	0.7	0.95	348223	20928.8	22097.2	21140.5	14022.3
1B	0.03	0.8	0.95	348223	20928.8	22097.2	21140.5	14022.3
1B	0.03	0.9	0.95	348223	20928.8	22097.2	21140.5	14022.3
1B	0.03	1	0.95	348223	20928.8	22097.2	21140.5	14022.3
1B	0.03	1.2	0.95	348223	20928.8	22097.2	21140.5	14022.3
1B	0.03	1.4	0.95	348223	20928.8	22097.2	21140.5	14022.3
1B	0.03	1.6	0.95	348223	20928.8	22097.2	21140.5	14022.3
1B	0.03	1.8	0.95	348223	20928.8	22097.2	21140.5	14022.3
1B	0.03	2	0.95	348223	20928.8	22097.2	21140.5	14022.3
1B	0.03	2.5	0.95	348223	20928.8	22097.2	21140.5	14022.3
1B	0.03	3	0.95	348223	20928.8	22097.2	21140.5	14022.3
1B	0.03	3.5	0.95	348223	20928.8	22097.2	21140.5	14022.3
1B	0.03	4	0.95	348223	20928.8	22097.2	21140.5	14022.3
1B	0.03	4.5	0.95	348223	20928.8	22097.2	21140.5	14022.3
1B	0.03	5	0.95	348223	20928.8	22097.2	21140.5	14022.3

CVaR_5	CVaR_6	det_NPV	Loss_1	Loss_2	Loss_3	Loss_4	Loss_5	Loss_6
0	516.835	569959	60000	60000	60000	60000	60000	60000
0	388.408	569814	58335.5	58335.5	58335.5	58335.5	58335.5	58335.5
0	294.83	567116	41767.3	41767.3	41767.3	41767.3	41767.3	41767.3
0	295.703	566400	39059.4	39059.4	39059.4	39059.4	39059.4	39059.4
0	388.602	563851	32393.7	32393.7	32393.7	32393.7	32393.7	32393.7
0	504.53	558908	21930.6	21930.6	21930.6	21930.6	21930.6	21930.6
0	500.465	555195	15206.8	15206.8	15206.8	15206.8	15206.8	15206.8
0	603.057	548130	4402.18	4402.18	4402.18	4402.18	4402.18	4402.18
2.94951	691.7	544947	0	0	0	0	0	0
2.94951	691.7	544947	0	0	0	0	0	0
2.94951	691.7	544947	0	0	0	0	0	0
2.94951	691.7	544947	0	0	0	0	0	0
2.94951	691.7	544947	0	0	0	0	0	0
2.94951	691.7	544947	0	0	0	0	0	0
2.94951	691.7	544947	0	0	0	0	0	0
2.94951	691.7	544947	0	0	0	0	0	0
2.94951	691.7	544947	0	0	0	0	0	0
2.94951	691.7	544947	0	0	0	0	0	0
2.94951	691.7	544947	0	0	0	0	0	0
2.94951	691.7	544947	0	0	0	0	0	0
2.94951	691.7	544947	0	0	0	0	0	0
2.94951	691.7	544947	0	0	0	0	0	0
13.1043	30952	456782	28865.4	28865.4	28865.4	28865.4	28865.4	28865.4
13.7101	30661.7	456337	21351.6	21351.6	21351.6	21351.6	21351.6	21351.6
14.9403	30193.8	455176	13254.7	13254.7	13254.7	13254.7	13254.7	13254.7
16.9304	29474	452363	2073.69	2073.69	2073.69	2073.69	2073.69	2073.69
22.4183	27886.4	451674	0	0	0	0	0	0
22.4183	27867.1	451674	0	0	0	0	0	0
22.4183	27882.6	451674	0	0	0	0	0	0
22.4183	27867.1	451674	0	0	0	0	0	0
22.4183	27904.4	451674	0	0	0	0	0	0
22.4183	27877.1	451674	0	0	0	0	0	0
22.4183	27862.9	451674	0	0	0	0	0	0
22.4183	27864	451674	0	0	0	0	0	0
22.4183	27905.4	451674	0	0	0	0	0	0
22.4183	27876.2	451674	0	0	0	0	0	0
22.4183	27868.2	451674	0	0	0	0	0	0
22.4183	27862.8	451674	0	0	0	0	0	0
22.4183	27874.1	451674	0	0	0	0	0	0
22.4183	27907	451674	0	0	0	0	0	0
22.4183	27862.9	451674	0	0	0	0	0	0
22.4183	27862.8	451674	0	0	0	0	0	0
22.4183	27862.8	451674	0	0	0	0	0	0
22.4183	27901.4	451674	0	0	0	0	0	0
23.8013	29128.7	379099	2144.49	2144.49	2144.49	2144.49	2144.49	2144.49
26.4137	27665.4	378960	0	0	0	0	0	0

26.4137	27665.2	378960	0	0	0	0	0	0
26.4137	27666.5	378960	0	0	0	0	0	0
26.4137	27666.1	378960	0	0	0	0	0	0
26.4137	27690.4	378960	0	0	0	0	0	0
26.4137	27665.2	378960	0	0	0	0	0	0
26.4137	27666.1	378960	0	0	0	0	0	0
26.4137	27669.5	378960	0	0	0	0	0	0
26.4137	27666.5	378960	0	0	0	0	0	0
26.4137	27668.3	378960	0	0	0	0	0	0
26.4137	27672	378960	0	0	0	0	0	0
26.4137	27665.4	378960	0	0	0	0	0	0
26.4137	27665.2	378960	0	0	0	0	0	0
26.4137	27665.4	378960	0	0	0	0	0	0
26.4137	27666.1	378960	0	0	0	0	0	0
26.4137	27666.1	378960	0	0	0	0	0	0
26.4137	27666.7	378960	0	0	0	0	0	0
26.4137	27665.2	378960	0	0	0	0	0	0
26.4137	27665.5	378960	0	0	0	0	0	0
26.4137	27665.2	378960	0	0	0	0	0	0
26.4137	27665.2	378960	0	0	0	0	0	0
0	1033.67	569959	60000	60000	60000	60000	60000	60000
0	776.815	569814	58335.5	58335.5	58335.5	58335.5	58335.5	58335.5
0	589.661	567116	41767.3	41767.3	41767.3	41767.3	41767.3	41767.3
0	591.405	566400	39059.4	39059.4	39059.4	39059.4	39059.4	39059.4
0	777.205	563851	32393.7	32393.7	32393.7	32393.7	32393.7	32393.7
0	1009.06	558908	21930.6	21930.6	21930.6	21930.6	21930.6	21930.6
0	1000.93	555195	15206.8	15206.8	15206.8	15206.8	15206.8	15206.8
0	1206.11	548130	4402.18	4402.18	4402.18	4402.18	4402.18	4402.18
5.89901	1383.4	544947	0	0	0	0	0	0
5.89901	1383.4	544947	0	0	0	0	0	0
5.89901	1383.4	544947	0	0	0	0	0	0
5.89901	1383.4	544947	0	0	0	0	0	0
5.89901	1383.4	544947	0	0	0	0	0	0
5.89901	1383.4	544947	0	0	0	0	0	0
5.89901	1383.4	544947	0	0	0	0	0	0
5.89901	1383.4	544947	0	0	0	0	0	0
5.89901	1383.4	544947	0	0	0	0	0	0
5.89901	1383.4	544947	0	0	0	0	0	0
5.89901	1383.4	544947	0	0	0	0	0	0
5.89901	1383.4	544947	0	0	0	0	0	0
5.89901	1383.4	544947	0	0	0	0	0	0
5.89901	1383.4	544947	0	0	0	0	0	0
5.89901	1383.4	544947	0	0	0	0	0	0
5.89901	1383.4	544947	0	0	0	0	0	0
5.89901	1383.4	544947	0	0	0	0	0	0
26.2086	33994.2	456782	28865.4	28865.4	28865.4	28865.4	28865.4	28865.4
27.4203	33678.3	456337	21351.6	21351.6	21351.6	21351.6	21351.6	21351.6
29.8805	33288.2	455176	13254.7	13254.7	13254.7	13254.7	13254.7	13254.7
33.8609	32508	452363	2073.69	2073.69	2073.69	2073.69	2073.69	2073.69
44.8366	31103	451674	0	0	0	0	0	0

44.8366	31092.2	451674	0	0	0	0	0	0
44.8366	31069.1	451674	0	0	0	0	0	0
44.8366	31092.2	451674	0	0	0	0	0	0
44.8366	31069.4	451674	0	0	0	0	0	0
44.8366	31069.5	451674	0	0	0	0	0	0
44.8366	31068.8	451674	0	0	0	0	0	0
44.8366	31075	451674	0	0	0	0	0	0
44.8366	31068.9	451674	0	0	0	0	0	0
44.8366	31103	451674	0	0	0	0	0	0
44.8366	31083.4	451674	0	0	0	0	0	0
44.8366	31068.8	451674	0	0	0	0	0	0
44.8366	31068.8	451674	0	0	0	0	0	0
44.8366	31079.7	451674	0	0	0	0	0	0
44.8366	31068.8	451674	0	0	0	0	0	0
44.8366	31098.7	451674	0	0	0	0	0	0
44.8366	31068.8	451674	0	0	0	0	0	0
44.8366	31068.8	451674	0	0	0	0	0	0
47.6026	32241.5	379099	2144.49	2144.49	2144.49	2144.49	2144.49	2144.49
52.8275	30922.5	378960	0	0	0	0	0	0
52.8275	30906.3	378960	0	0	0	0	0	0
52.8275	30922.5	378960	0	0	0	0	0	0
52.8275	30906.7	378960	0	0	0	0	0	0
52.8275	30901.1	378960	0	0	0	0	0	0
52.8275	30907.3	378960	0	0	0	0	0	0
52.8275	30922.5	378960	0	0	0	0	0	0
52.8275	30922.5	378960	0	0	0	0	0	0
52.8275	30906.7	378960	0	0	0	0	0	0
52.8275	30901.5	378960	0	0	0	0	0	0
52.8275	30919.3	378960	0	0	0	0	0	0
52.8275	30902.5	378960	0	0	0	0	0	0
52.8275	30901	378960	0	0	0	0	0	0
52.8275	30903	378960	0	0	0	0	0	0
52.8275	30901	378960	0	0	0	0	0	0
52.8275	30922.5	378960	0	0	0	0	0	0
52.8275	30903.3	378960	0	0	0	0	0	0
52.8275	30922.5	378960	0	0	0	0	0	0
52.8275	30901.8	378960	0	0	0	0	0	0
52.8275	30906.7	378960	0	0	0	0	0	0
52.8275	30906.7	378960	0	0	0	0	0	0
0	2067.34	569959	60000	60000	60000	60000	60000	60000
0	1553.63	569814	58335.5	58335.5	58335.5	58335.5	58335.5	58335.5
0	1179.32	567116	41767.3	41767.3	41767.3	41767.3	41767.3	41767.3
0	1182.81	566400	39059.4	39059.4	39059.4	39059.4	39059.4	39059.4
0	1554.41	563851	32393.7	32393.7	32393.7	32393.7	32393.7	32393.7
0	2018.12	558908	21930.6	21930.6	21930.6	21930.6	21930.6	21930.6
0	2001.86	555195	15206.8	15206.8	15206.8	15206.8	15206.8	15206.8
0	2412.23	548130	4402.18	4402.18	4402.18	4402.18	4402.18	4402.18

11.798	2766.8	544947	0	0	0	0	0	0
11.798	2766.8	544947	0	0	0	0	0	0
11.798	2766.8	544947	0	0	0	0	0	0
11.798	2766.8	544947	0	0	0	0	0	0
11.798	2766.8	544947	0	0	0	0	0	0
11.798	2766.8	544947	0	0	0	0	0	0
11.798	2766.8	544947	0	0	0	0	0	0
11.798	2766.8	544947	0	0	0	0	0	0
11.798	2766.8	544947	0	0	0	0	0	0
11.798	2766.8	544947	0	0	0	0	0	0
11.798	2766.8	544947	0	0	0	0	0	0
11.798	2766.8	544947	0	0	0	0	0	0
11.798	2766.8	544947	0	0	0	0	0	0
11.798	2766.8	544947	0	0	0	0	0	0
11.798	2766.8	544947	0	0	0	0	0	0
11.798	2766.8	544947	0	0	0	0	0	0
52.4171	36244.5	456782	28865.4	28865.4	28865.4	28865.4	28865.4	28865.4
54.8405	35925.9	456337	21351.6	21351.6	21351.6	21351.6	21351.6	21351.6
59.7611	35529	455176	13254.7	13254.7	13254.7	13254.7	13254.7	13254.7
67.7217	34807.1	452363	2073.69	2073.69	2073.69	2073.69	2073.69	2073.69
89.6732	33498.8	451674	0	0	0	0	0	0
89.6732	33487.3	451674	0	0	0	0	0	0
89.6732	33487.3	451674	0	0	0	0	0	0
89.6732	33487.3	451674	0	0	0	0	0	0
89.6732	33498.8	451674	0	0	0	0	0	0
89.6732	33487.3	451674	0	0	0	0	0	0
89.6732	33487.3	451674	0	0	0	0	0	0
89.6732	33487.3	451674	0	0	0	0	0	0
89.6732	33487.3	451674	0	0	0	0	0	0
89.6732	33488.8	451674	0	0	0	0	0	0
89.6732	33488	451674	0	0	0	0	0	0
89.6732	33487.3	451674	0	0	0	0	0	0
89.6732	33487.3	451674	0	0	0	0	0	0
89.6732	33487.3	451674	0	0	0	0	0	0
89.6732	33487.3	451674	0	0	0	0	0	0
89.6732	33507.5	451674	0	0	0	0	0	0
89.6732	33487.3	451674	0	0	0	0	0	0
89.6732	33487.3	451674	0	0	0	0	0	0
89.6732	33487.3	451674	0	0	0	0	0	0
89.6732	33507.5	451674	0	0	0	0	0	0
95.2051	34638.3	379099	2144.49	2144.49	2144.49	2144.49	2144.49	2144.49
105.655	33419.5	378960	0	0	0	0	0	0
105.655	33413.3	378960	0	0	0	0	0	0
105.655	33418.9	378960	0	0	0	0	0	0
105.655	33418.9	378960	0	0	0	0	0	0
105.655	33421	378960	0	0	0	0	0	0
105.655	33418.9	378960	0	0	0	0	0	0
105.655	33418.9	378960	0	0	0	0	0	0
105.655	33413.3	378960	0	0	0	0	0	0
105.655	33418.9	378960	0	0	0	0	0	0
105.655	33418.9	378960	0	0	0	0	0	0

105.655	33418.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33413.3	378960	0	0	0	0	0	0
105.655	33418.9	378960	0	0	0	0	0	0
105.655	33413.3	378960	0	0	0	0	0	0
105.655	33418.9	378960	0	0	0	0	0	0
105.655	33418.9	378960	0	0	0	0	0	0
105.655	33418.9	378960	0	0	0	0	0	0
105.655	33421	378960	0	0	0	0	0	0
105.655	33418.9	378960	0	0	0	0	0	0
105.655	33421	378960	0	0	0	0	0	0

CVaR_5	CVaR_6	det_NPV	Loss_1	Loss_2	Loss_3	Loss_4	Loss_5	Loss_6
0	516.835	569959	60000	60000	5734.24	0	0	0
0	516.835	569959	60000	60000	5734.24	0	0	0
0	516.835	569959	60000	60000	5734.24	0	0	0
0	523.185	569700	60000	60000	0	0	0	0
0	523.185	569700	60000	60000	0	0	0	0
0	523.185	569517	60000	57800.3	0	0	0	0
0	508.256	568870	52461.9	57961.1	0	0	0	0
0	511.888	566637	57574	33700	0	0	0	0
0	511.414	566004	52461.9	33700	0	0	0	0
0	501.825	561782	52461.9	3681.07	0	0	0	0
0	497.617	561223	52461.9	0	0	0	0	0
0	498.73	561223	52461.9	0	0	0	0	0
0	499.384	560752	50253.2	0	0	0	0	0
0	516.596	558903	42410	0	0	0	0	0
0	519.902	555812	31385.1	0	0	0	0	0
0	511.743	551551	18386.6	0	0	0	0	0
2.94951	691.7	544947	0	0	0	0	0	0
2.94951	691.7	544947	0	0	0	0	0	0
2.94951	691.7	544947	0	0	0	0	0	0
2.94951	691.7	544947	0	0	0	0	0	0
2.94951	691.7	544947	0	0	0	0	0	0
2.94951	691.7	544947	0	0	0	0	0	0
11.5255	30671.5	457238	52461.9	7239.26	0	0	0	3430.02
13.6797	28297.1	457202	52461.9	7918.6	0	0	0	0
21.156	28275	456697	42410	0	0	0	0	0
21.156	28275	456697	42410	0	0	0	0	0
21.0865	28235.3	456270	35409.9	0	0	0	0	0
21.2246	28180.9	455800	28865.4	0	0	0	0	0
21.2329	28141.3	455419	24688.1	0	0	0	0	0
21.2329	28141.3	455419	24688.1	0	0	0	0	0
21.2329	28141.3	455419	24688.1	0	0	0	0	0
17.4275	28861.7	452810	6916.93	0	0	0	0	0
21.8372	27922.9	452062	2144.49	0	0	0	0	0
22.4183	27862.8	451674	0	0	0	0	0	0

22.4183	27862.8	451674	0	0	0	0	0	0
22.4183	27862.8	451674	0	0	0	0	0	0
22.4183	27862.8	451674	0	0	0	0	0	0
22.4183	27862.8	451674	0	0	0	0	0	0
22.4183	27862.8	451674	0	0	0	0	0	0
22.4183	27862.8	451674	0	0	0	0	0	0
22.4183	27862.8	451674	0	0	0	0	0	0
22.4183	27862.8	451674	0	0	0	0	0	0
22.4183	27862.8	451674	0	0	0	0	0	0
22.4183	27862.8	451674	0	0	0	0	0	0
17.8883	32170.5	379281	2144.49	0	0	0	0	6547.29
17.8883	32170.5	379281	2144.49	0	0	0	0	6547.29
17.6206	32170.5	379230	0	0	0	0	0	6547.29
26.4137	27665.2	378960	0	0	0	0	0	0
26.4137	27665.2	378960	0	0	0	0	0	0
26.4137	27698.3	378960	0	0	0	0	0	0
26.4137	27665.2	378960	0	0	0	0	0	0
26.4137	27665.2	378960	0	0	0	0	0	0
26.4137	27665.2	378960	0	0	0	0	0	0
26.4137	27698.3	378960	0	0	0	0	0	0
26.4137	27665.2	378960	0	0	0	0	0	0
26.4137	27665.2	378960	0	0	0	0	0	0
26.4137	27665.2	378960	0	0	0	0	0	0
26.4137	27665.2	378960	0	0	0	0	0	0
26.4137	27665.2	378960	0	0	0	0	0	0
26.4137	27665.2	378960	0	0	0	0	0	0
26.4137	27665.2	378960	0	0	0	0	0	0
26.4137	27698.3	378960	0	0	0	0	0	0
26.4137	27665.2	378960	0	0	0	0	0	0
26.4137	27698.3	378960	0	0	0	0	0	0
26.4137	27665.2	378960	0	0	0	0	0	0
26.4137	27698.3	378960	0	0	0	0	0	0
26.4137	27665.2	378960	0	0	0	0	0	0
0	1033.67	569959	60000	60000	5734.24	0	0	0
0	1033.67	569959	60000	60000	5734.24	0	0	0
0	1033.67	569959	60000	60000	5734.24	0	0	0
0	1046.37	569700	60000	60000	0	0	0	0
0	1046.37	569700	60000	60000	0	0	0	0
0	1046.37	569517	60000	57800.3	0	0	0	0
0	1016.51	568870	52461.9	57961.1	0	0	0	0
0	1023.78	566637	57574	33700	0	0	0	0
0	1022.83	566004	52461.9	33700	0	0	0	0
0	1005.25	561782	52461.9	3681.07	0	0	0	0
0	995.235	561223	52461.9	0	0	0	0	0
0	995.235	561223	52461.9	0	0	0	0	0
0	998.768	560752	50253.2	0	0	0	0	0
0	1033.19	558903	42410	0	0	0	0	0
0	1039.8	555812	31385.1	0	0	0	0	0

0	1023.49	551551	18386.6	0	0	0	0	0
5.89901	1383.4	544947	0	0	0	0	0	0
5.89901	1383.4	544947	0	0	0	0	0	0
5.89901	1383.4	544947	0	0	0	0	0	0
5.89901	1383.4	544947	0	0	0	0	0	0
5.89901	1383.4	544947	0	0	0	0	0	0
5.89901	1383.4	544947	0	0	0	0	0	0
23.051	33746.8	457238	52461.9	7239.26	0	0	0	3430.02
27.3595	31542.3	457202	52461.9	7918.6	0	0	0	0
42.3121	31516.8	456697	42410	0	0	0	0	0
42.3121	31516.8	456697	42410	0	0	0	0	0
42.173	31470.7	456270	35409.9	0	0	0	0	0
42.4493	31407.2	455800	28865.4	0	0	0	0	0
42.4659	31361.1	455419	24688.1	0	0	0	0	0
42.4659	31361.1	455419	24688.1	0	0	0	0	0
42.4659	31361.1	455419	24688.1	0	0	0	0	0
34.8549	31970.3	452810	6916.93	0	0	0	0	0
43.6743	31126.1	452062	2144.49	0	0	0	0	0
44.8366	31068.8	451674	0	0	0	0	0	0
44.8366	31068.8	451674	0	0	0	0	0	0
44.8366	31068.8	451674	0	0	0	0	0	0
44.8366	31068.8	451674	0	0	0	0	0	0
44.8366	31068.8	451674	0	0	0	0	0	0
44.8366	31105	451674	0	0	0	0	0	0
44.8366	31068.8	451674	0	0	0	0	0	0
44.8366	31068.8	451674	0	0	0	0	0	0
44.8366	31098.7	451674	0	0	0	0	0	0
44.8366	31105	451674	0	0	0	0	0	0
44.8366	31068.8	451674	0	0	0	0	0	0
35.7765	35073.3	379281	2144.49	0	0	0	0	6547.29
35.7765	35073.3	379281	2144.49	0	0	0	0	6547.29
35.2413	35073.3	379230	0	0	0	0	0	6547.29
52.8275	30901	378960	0	0	0	0	0	0
52.8275	30901	378960	0	0	0	0	0	0
52.8275	30901	378960	0	0	0	0	0	0
52.8275	30901	378960	0	0	0	0	0	0
52.8275	30901	378960	0	0	0	0	0	0
52.8275	30901	378960	0	0	0	0	0	0
52.8275	30901	378960	0	0	0	0	0	0
52.8275	30901	378960	0	0	0	0	0	0
52.8275	30901	378960	0	0	0	0	0	0
52.8275	30901	378960	0	0	0	0	0	0
52.8275	30906.3	378960	0	0	0	0	0	0
52.8275	30901	378960	0	0	0	0	0	0
52.8275	30901	378960	0	0	0	0	0	0
52.8275	30901	378960	0	0	0	0	0	0
52.8275	30901	378960	0	0	0	0	0	0

52.8275	30901	378960	0	0	0	0	0	0
52.8275	30901	378960	0	0	0	0	0	0
52.8275	30901	378960	0	0	0	0	0	0
52.8275	30901	378960	0	0	0	0	0	0
0	2067.34	569959	60000	60000	5734.24	0	0	0
0	2067.34	569959	60000	60000	5734.24	0	0	0
0	2067.34	569959	60000	60000	5734.24	0	0	0
0	2092.74	569700	60000	60000	0	0	0	0
0	2092.74	569700	60000	60000	0	0	0	0
0	2092.74	569517	60000	57800.3	0	0	0	0
0	2033.02	568870	52461.9	57961.1	0	0	0	0
0	2047.21	566637	57574	33700	0	0	0	0
0	2045.66	566004	52461.9	33700	0	0	0	0
0	2007.3	561782	52461.9	3681.07	0	0	0	0
0	1990.47	561223	52461.9	0	0	0	0	0
0	1990.47	561223	52461.9	0	0	0	0	0
0	1997.54	560752	50253.2	0	0	0	0	0
0	2066.39	558903	42410	0	0	0	0	0
0	2079.61	555812	31385.1	0	0	0	0	0
0	2046.97	551551	18386.6	0	0	0	0	0
11.798	2766.8	544947	0	0	0	0	0	0
11.798	2766.8	544947	0	0	0	0	0	0
11.798	2766.8	544947	0	0	0	0	0	0
11.798	2766.8	544947	0	0	0	0	0	0
11.798	2766.8	544947	0	0	0	0	0	0
11.798	2766.8	544947	0	0	0	0	0	0
46.1019	35994.5	457238	52461.9	7239.26	0	0	0	3430.02
54.719	33959.9	457202	52461.9	7918.6	0	0	0	0
84.6242	33926.9	456697	42410	0	0	0	0	0
84.6242	33926.9	456697	42410	0	0	0	0	0
84.3459	33883.2	456270	35409.9	0	0	0	0	0
84.8985	33801.5	455800	28865.4	0	0	0	0	0
84.9318	33748.9	455419	24688.1	0	0	0	0	0
84.9318	33748.9	455419	24688.1	0	0	0	0	0
84.9318	33748.9	455419	24688.1	0	0	0	0	0
69.7099	34383.9	452810	6916.93	0	0	0	0	0
87.3486	33527.7	452062	2144.49	0	0	0	0	0
89.6732	33487.3	451674	0	0	0	0	0	0
89.6732	33487.3	451674	0	0	0	0	0	0
89.6732	33487.3	451674	0	0	0	0	0	0
89.6732	33490.3	451674	0	0	0	0	0	0
89.6732	33487.3	451674	0	0	0	0	0	0
89.6732	33487.3	451674	0	0	0	0	0	0
89.6732	33487.3	451674	0	0	0	0	0	0
89.6732	33487.3	451674	0	0	0	0	0	0
89.6732	33487.3	451674	0	0	0	0	0	0
89.6732	33490.3	451674	0	0	0	0	0	0

89.6732	33487.3	451674	0	0	0	0	0	0
71.5531	37295.2	379281	2144.49	0	0	0	0	6547.29
71.5531	37271.2	379281	2144.49	0	0	0	0	6547.29
70.4825	37271.2	379230	0	0	0	0	0	6547.29
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0
105.655	33401.9	378960	0	0	0	0	0	0

Equation	interest	Lambda	Alpha	Objective	NPV_avera	VaR_1	VaR_2	VaR_3
6A	0.01	0.05	0.8	536179	539179	60000	60000	60000
6A	0.01	0.1	0.8	533179	539179	60000	60000	60000
6A	0.01	0.2	0.8	527286	538761	56912.6	56480.1	56880.8
6A	0.01	0.3	0.8	521588	538324	55280.2	54823.4	55012.9
6A	0.01	0.4	0.8	516407	536322	48618.9	48413.9	48040.4
6A	0.01	0.5	0.8	511517	534808	45058	44845.2	44842.5
6A	0.01	0.6	0.8	507398	527750	31194.7	30954.7	31262.9
6A	0.01	0.7	0.8	504311	523381	23647.1	23439.6	24040.7
6A	0.01	0.8	0.8	501704	521410	20826.9	20559.1	21266.2
6A	0.01	0.9	0.8	499451	518667	17087.5	16918.4	17662.4
6A	0.01	1	0.8	497383	516527	14562.4	14584.1	15042.2
6A	0.01	1.2	0.8	494128	510347	8301.56	8416.02	9238.68
6A	0.01	1.4	0.8	491736	506586	5011.76	5168.46	5880.55
6A	0.01	1.6	0.8	489977	502249	1864.78	1960.1	2728.84
6A	0.01	1.8	0.8	488457	502001	1687.67	1814.71	2526.49
6A	0.01	2	0.8	486969	501688	1467.84	1604.65	2382.39
6A	0.01	2.5	0.8	483342	501248	1266.19	1400.43	2045.14
6A	0.01	3	0.8	479834	500565	981.065	1139.71	1742.51
6A	0.01	3.5	0.8	476419	500095	865.654	950.797	1600.34
6A	0.01	4	0.8	473053	499867	779.72	907.433	1576.82
6A	0.01	4.5	0.8	469720	499558	727.052	855.263	1495.51
6A	0.01	5	0.8	466415	499350	693.116	836.804	1451.57
6A	0.02	0.05	0.8	426370	428085	31453.7	30703.5	18997.7
6A	0.02	0.1	0.8	424711	427473	24170.7	23412.4	20039.1
6A	0.02	0.2	0.8	422205	426967	20011.3	18908.7	19714.4
6A	0.02	0.3	0.8	420047	426029	15492.2	14683.2	15937.5
6A	0.02	0.4	0.8	418129	425191	12957.1	12371	13555.3
6A	0.02	0.5	0.8	416612	423545	8894.78	8298.79	9310.13
6A	0.02	0.6	0.8	415371	422256	6172.41	5752.79	6703.98
6A	0.02	0.7	0.8	414291	421274	4361.09	4187.47	5091.11
6A	0.02	0.8	0.8	413417	419908	2325.31	2162.2	3036.18
6A	0.02	0.9	0.8	412614	419765	2100.43	2086.2	2881.87
6A	0.02	1	0.8	411827	419627	1908.51	1934.57	2732.28
6A	0.02	1.2	0.8	410285	419470	1750.25	1706.8	2737.59
6A	0.02	1.4	0.8	408765	419295	1612.92	1483.06	2507.04
6A	0.02	1.6	0.8	407276	419062	1438.06	1397.36	2345.27
6A	0.02	1.8	0.8	405823	418725	1310.36	1242.47	2102.36
6A	0.02	2	0.8	404405	418450	1187.72	1153.52	1908.42
6A	0.02	2.5	0.8	400958	417994	931.453	941.777	1589.62
6A	0.02	3	0.8	397578	417710	766.019	785.031	1658.44
6A	0.02	3.5	0.8	394254	417325	639.772	744.107	1503.33
6A	0.02	4	0.8	390984	416884	539.762	657.481	1238.02
6A	0.02	4.5	0.8	387778	416383	448.672	569.561	1253.37
6A	0.02	5	0.8	384615	416041	366.491	462.022	1125.12
6A	0.03	0.05	0.8	357408	359129	34429.8	24625.8	31385.8
6A	0.03	0.1	0.8	355686	359129	34429.8	23173.3	31385.8

6A	0.03	0.2	0.8	353565	355691	10203.3	3961.47	5821.48
6A	0.03	0.3	0.8	352612	355268	3225.19	2239.18	3922.57
6A	0.03	0.4	0.8	351739	355187	3010.3	2217.05	3658.28
6A	0.03	0.5	0.8	350885	355115	2814.89	2217.73	3546.38
6A	0.03	0.6	0.8	350054	354964	2452.62	1980.9	3170.46
6A	0.03	0.7	0.8	349244	354848	2274.83	1874.27	2956.53
6A	0.03	0.8	0.8	348451	354753	2095.97	1781.48	2949.93
6A	0.03	0.9	0.8	347669	354652	1886.07	1748.69	2813.76
6A	0.03	1	0.8	346900	354509	1768.73	1590.76	2646.25
6A	0.03	1.2	0.8	345406	354213	1403.96	1212.69	2238.33
6A	0.03	1.4	0.8	343958	353981	1190.21	995.958	2084.34
6A	0.03	1.6	0.8	342540	353795	1016.89	899.444	1941.68
6A	0.03	1.8	0.8	341143	353622	886.894	764.869	1859.56
6A	0.03	2	0.8	339767	353425	773.994	690.722	1864.53
6A	0.03	2.5	0.8	336417	352861	595.242	478.096	1469.38
6A	0.03	3	0.8	333176	352401	525.62	481.763	1327.4
6A	0.03	3.5	0.8	330003	352029	419.657	440.067	1291.12
6A	0.03	4	0.8	326874	351758	353.832	380.716	1210.94
6A	0.03	4.5	0.8	323771	351641	259.332	356.904	1192.92
6A	0.03	5	0.8	320685	351481	259.18	343.386	1126.28
6A	0.01	0.05	0.9	536179	539179	60000	60000	60000
6A	0.01	0.1	0.9	533179	539179	60000	60000	60000
6A	0.01	0.2	0.9	527229	538807	57617.2	57363.1	57641.5
6A	0.01	0.3	0.9	521478	538547	56558.3	56289.4	56469.5
6A	0.01	0.4	0.9	516094	536493	50127.6	49869.7	49797.9
6A	0.01	0.5	0.9	511035	535713	48320.9	48190.8	48095
6A	0.01	0.6	0.9	506468	531321	39674	39756.1	39920.9
6A	0.01	0.7	0.9	502811	526495	31359.4	31100.2	31885.2
6A	0.01	0.8	0.9	499743	522813	25788.6	25564.2	26367
6A	0.01	0.9	0.9	496984	520225	22401.3	22475.4	23280
6A	0.01	1	0.9	494519	518740	20504.2	20799.4	21576.2
6A	0.01	1.2	0.9	490155	512678	14397	14977.6	15602
6A	0.01	1.4	0.9	486800	508523	10866	11488.8	12117.3
6A	0.01	1.6	0.9	483957	502760	6679.26	7424.81	8213.17
6A	0.01	1.8	0.9	481633	502319	6340.71	7197.48	7829.6
6A	0.01	2	0.9	479354	501938	6145.19	6977.4	7654.96
6A	0.01	2.5	0.9	473804	500985	5696.16	6652.69	7430.58
6A	0.01	3	0.9	468433	500352	5655.07	6422.56	7098.15
6A	0.01	3.5	0.9	463163	499787	5462.46	6244.63	7015.05
6A	0.01	4	0.9	457968	499245	5311.18	6144.53	6754.41
6A	0.01	4.5	0.9	452835	498785	5084.92	6063.39	6575.53
6A	0.01	5	0.9	447746	498514	5132.63	6018.67	6550.44
6A	0.02	0.05	0.9	426261	428124	35058.6	34657	37245.8
6A	0.02	0.1	0.9	424438	427568	28426.4	28177.5	31281.7
6A	0.02	0.2	0.9	421631	426990	23406.5	23021.7	23914.5
6A	0.02	0.3	0.9	419131	426075	19347.9	19335.4	20064.6
6A	0.02	0.4	0.9	416858	425750	18392.1	18378.4	19176.3

6A	0.02	0.5	0.9	414891	423756	13236.3	13497	14419.1
6A	0.02	0.6	0.9	413216	422817	11391.5	11547.8	12457.8
6A	0.02	0.7	0.9	411681	422040	10055.2	10281	11243
6A	0.02	0.8	0.9	410307	419976	6958.78	7610.16	8319.86
6A	0.02	0.9	0.9	409111	419797	6801.37	7485.1	8332.03
6A	0.02	1	0.9	407931	419666	6618.72	7321.31	8158.69
6A	0.02	1.2	0.9	405610	419403	6279.08	7023.14	7857.61
6A	0.02	1.4	0.9	403327	419157	6124.53	6787.08	7719.91
6A	0.02	1.6	0.9	401088	418769	5903.9	6591.02	7494.88
6A	0.02	1.8	0.9	398894	418487	5676.01	6453.14	7412.88
6A	0.02	2	0.9	396731	418247	5508.02	6365.98	7211.64
6A	0.02	2.5	0.9	391423	417525	5232.96	6271.23	6890.49
6A	0.02	3	0.9	386249	416952	5029.61	6129.06	6533.22
6A	0.02	3.5	0.9	381165	416584	4998.13	5902.78	6377.69
6A	0.02	4	0.9	376123	416291	4801.06	5837.38	6555
6A	0.02	4.5	0.9	371121	415948	4802.64	5742.82	6405.18
6A	0.02	5	0.9	366165	415564	4782.44	5590.67	6310.13
6A	0.03	0.05	0.9	357260	359128	37343.9	27379.5	35063.4
6A	0.03	0.1	0.9	355393	359128	37343.9	27580.7	36591.5
6A	0.03	0.2	0.9	352719	356718	19997.2	16285	16533.4
6A	0.03	0.3	0.9	351306	355136	8285.08	8282.74	8654.63
6A	0.03	0.4	0.9	350046	355026	7896.56	7994.52	8642.16
6A	0.03	0.5	0.9	348808	354961	7681.04	7734.15	8704.55
6A	0.03	0.6	0.9	347590	354821	7385.33	7559.41	8450.62
6A	0.03	0.7	0.9	346398	354671	7103.71	7171.87	8186.19
6A	0.03	0.8	0.9	345224	354564	6815.45	7014.16	8017.9
6A	0.03	0.9	0.9	344064	354385	6390.75	6898.78	7850.13
6A	0.03	1	0.9	342926	354232	6146.63	6722.63	7693.98
6A	0.03	1.2	0.9	340695	353910	5782.6	6413.9	7460.17
6A	0.03	1.4	0.9	338514	353610	5503.89	6118.24	7243.54
6A	0.03	1.6	0.9	336376	353337	5330.48	6200.45	7042.66
6A	0.03	1.8	0.9	334274	353022	5114.18	6084.59	6825.18
6A	0.03	2	0.9	332202	352828	4983.08	5997.29	6657.78
6A	0.03	2.5	0.9	327093	352401	4812.42	5955.53	6611.34
6A	0.03	3	0.9	322057	352096	4659.53	5770.36	6436.28
6A	0.03	3.5	0.9	317082	351731	4412.32	5607.21	6264.64
6A	0.03	4	0.9	312149	351478	4514.01	5470.02	6138.46
6A	0.03	4.5	0.9	307239	351381	4445.39	5533.02	6107.3
6A	0.03	5	0.9	302343	351241	4509.27	5496.64	6144.43
6A	0.01	0.05	0.95	536179	539179	60000	60000	60000
6A	0.01	0.1	0.95	533179	539179	60000	60000	60000
6A	0.01	0.2	0.95	527192	538842	58043.8	57885.8	58089.5
6A	0.01	0.3	0.95	521402	538671	57319.3	57050.7	57236.1
6A	0.01	0.4	0.95	515854	536788	51780.6	51365.4	51341
6A	0.01	0.5	0.95	510704	536127	50091.6	49921.5	49773.2
6A	0.01	0.6	0.95	505870	533030	44118.2	43812.6	44113.7
6A	0.01	0.7	0.95	501753	527764	35398.4	35178.5	35727.2

6A	0.01	0.8	0.95	498265	524060	30026.8	29986.3	30721.3
6A	0.01	0.9	0.95	495210	522038	27480.8	27292.7	28060.1
6A	0.01	1	0.95	492381	519020	23949.1	24171.8	24529.2
6A	0.01	1.2	0.95	487315	514395	19657.6	19927.5	20199.3
6A	0.01	1.4	0.95	483126	509782	15827.1	15896.8	16534.8
6A	0.01	1.6	0.95	479462	506622	13675.5	13717.8	14062.2
6A	0.01	1.8	0.95	476464	502286	10865.3	10746.8	11346.1
6A	0.01	2	0.95	473615	501914	10623.7	10511.8	11221.5
6A	0.01	2.5	0.95	466631	501067	10185.4	10115.1	10966.1
6A	0.01	3	0.95	459837	500115	9816	9858.77	10835.3
6A	0.01	3.5	0.95	453151	499735	9697.1	9745.85	10764.8
6A	0.01	4	0.95	446527	499181	9585.53	9614.96	10550.8
6A	0.01	4.5	0.95	439970	498814	9554.95	9592.13	10539.5
6A	0.01	5	0.95	433462	498165	9428.86	9400.84	10393.4
6A	0.02	0.05	0.95	426177	428151	37812.5	37634.8	39468.7
6A	0.02	0.1	0.95	424227	427700	32415.9	32050.2	25785.1
6A	0.02	0.2	0.95	421173	427031	26572.5	26666.3	26946.7
6A	0.02	0.3	0.95	418409	426162	23010.2	22962.5	24009.3
6A	0.02	0.4	0.95	415884	425772	21786.6	21868.4	22660.2
6A	0.02	0.5	0.95	413600	424134	18174.7	18192.8	18440.5
6A	0.02	0.6	0.95	411605	423065	15929.1	16487.1	16468.9
6A	0.02	0.7	0.95	409737	422570	15182.9	15408.6	15593
6A	0.02	0.8	0.95	407964	421408	13368	13805.7	13981.8
6A	0.02	0.9	0.95	406426	419777	11252.2	11547.2	11776
6A	0.02	1	0.95	404950	419644	11194.1	11438.2	11716.1
6A	0.02	1.2	0.95	402041	419356	10887.8	11089.6	11551.6
6A	0.02	1.4	0.95	399182	419028	10766.9	10708	11425.9
6A	0.02	1.6	0.95	396372	418688	10630.8	10437.1	11157.8
6A	0.02	1.8	0.95	393601	418363	10366.4	10159.7	11030.3
6A	0.02	2	0.95	390872	417995	10019.1	9788.64	10852.4
6A	0.02	2.5	0.95	384179	417293	9784.1	9587.69	10649
6A	0.02	3	0.95	377595	416802	9678.81	9509.93	10575.7
6A	0.02	3.5	0.95	371111	416280	9455.65	9392.36	10384.4
6A	0.02	4	0.95	364680	415924	9431.88	9234.86	10256.6
6A	0.02	4.5	0.95	358299	415578	9238.12	9171.65	10199.1
6A	0.02	5	0.95	351940	415460	9192.99	9126.87	10141.4
6A	0.03	0.05	0.95	357150	359126	39526.2	30421.9	37648.5
6A	0.03	0.1	0.95	355174	359123	39496.4	31678.7	37541
6A	0.03	0.2	0.95	352142	357050	12258.4	21691	22168.6
6A	0.03	0.3	0.95	350331	354996	11991.4	12455.6	12673.7
6A	0.03	0.4	0.95	348786	354936	11849.2	12209.3	12477.7
6A	0.03	0.5	0.95	347263	354823	11580.7	12029.7	12206
6A	0.03	0.6	0.95	345757	354748	11445.3	11943.3	12199.5
6A	0.03	0.7	0.95	344264	354682	11364	11893.2	12049
6A	0.03	0.8	0.95	342785	354512	11136.4	11809.2	11890.1
6A	0.03	0.9	0.95	341328	354394	10936.3	11749.5	11799.2
6A	0.03	1	0.95	339888	354156	10843.8	11219	11593.7

6A	0.03	1.2	0.95	337082	353700	10159.1	10444.7	11236.5
6A	0.03	1.4	0.95	334337	353345	9964.31	10177.5	10813.2
6A	0.03	1.6	0.95	331638	353110	9858.68	9986.79	10762.7
6A	0.03	1.8	0.95	328974	352766	9837.11	9573.68	10580.6
6A	0.03	2	0.95	326341	352556	9628.73	9388.6	10387.1
6A	0.03	2.5	0.95	319845	352078	9490.5	9243.87	10370
6A	0.03	3	0.95	313436	351710	9352.79	9102.43	10280.7
6A	0.03	3.5	0.95	307073	351533	9267.4	9088.1	10141.1
6A	0.03	4	0.95	300729	351433	9147.19	9076.56	10141.4
6A	0.03	4.5	0.95	294397	351362	9169.78	9040	10124.4
6A	0.03	5	0.95	288081	351111	9136.6	8993.52	9996.61

Equation	interest	Lambda	Alpha	Objective	NPV_avera	VaR_1	VaR_2	VaR_3
6B	0.01	0.05	0.8	537506	539173	60000	58914.9	60000
6B	0.01	0.1	0.8	535840	539173	60000	58914.9	60000
6B	0.01	0.2	0.8	532568	538806	60000	58913.3	60000
6B	0.01	0.3	0.8	529467	538731	60000	58913.3	60000
6B	0.01	0.4	0.8	526406	538600	60000	57133.2	60000
6B	0.01	0.5	0.8	523430	537787	60000	56739.3	47947.8
6B	0.01	0.6	0.8	520680	536063	60000	57900.8	25544.7
6B	0.01	0.7	0.8	518336	533826	60000	58861.6	0
6B	0.01	0.8	0.8	516148	533492	60000	57377.5	0
6B	0.01	0.9	0.8	514005	533060	60000	55262.9	0
6B	0.01	1	0.8	511919	532422	60000	51798.7	0
6B	0.01	1.2	0.8	508076	529169	60000	34400.8	0
6B	0.01	1.4	0.8	504993	524253	60000	9452.16	0
6B	0.01	1.6	0.8	502494	521896	60000	0	0
6B	0.01	1.8	0.8	500087	521549	60000	0	0
6B	0.01	2	0.8	497724	521136	60000	0	0
6B	0.01	2.5	0.8	492267	515722	45042.4	0	0
6B	0.01	3	0.8	487881	512764	36407.4	0	0
6B	0.01	3.5	0.8	483857	511188	32203.1	0	0
6B	0.01	4	0.8	480056	509533	28522.9	0	0
6B	0.01	4.5	0.8	476470	508034	25439	0	0
6B	0.01	5	0.8	473044	506707	22917.6	0	0
6B	0.02	0.05	0.8	427315	428437	54773.2	33450.1	0
6B	0.02	0.1	0.8	426249	428242	60000	9606.17	0
6B	0.02	0.2	0.8	424437	427898	57280.2	0	0
6B	0.02	0.3	0.8	422767	427652	51678.3	0	0
6B	0.02	0.4	0.8	421153	427560	49156.1	0	0
6B	0.02	0.5	0.8	419562	427353	47106.1	0	0
6B	0.02	0.6	0.8	418109	425791	41005.3	0	0
6B	0.02	0.7	0.8	417053	423569	36238.7	0	0
6B	0.02	0.8	0.8	416148	423202	33412.2	0	0
6B	0.02	0.9	0.8	415281	422955	31502	0	0
6B	0.02	1	0.8	414438	422766	30366.6	0	0
6B	0.02	1.2	0.8	412809	422433	28327.5	0	0

6B	0.02	1.4	0.8	411226	422197	27071.8	0	0
6B	0.02	1.6	0.8	409677	421929	25430.2	0	0
6B	0.02	1.8	0.8	408165	421586	24091.4	0	0
6B	0.02	2	0.8	406697	421065	22089.4	0	0
6B	0.02	2.5	0.8	403229	420102	18696.2	0	0
6B	0.02	3	0.8	399911	419520	16838.1	0	0
6B	0.02	3.5	0.8	396689	418927	15472.8	0	0
6B	0.02	4	0.8	393546	418482	14646.1	0	0
6B	0.02	4.5	0.8	390459	418003	13824.8	0	0
6B	0.02	5	0.8	387416	417603	13386.8	0	0
6B	0.03	0.05	0.8	358209	359070	0	21888.5	9718.48
6B	0.03	0.1	0.8	357441	358877	0	4467.6	16990.5
6B	0.03	0.2	0.8	356159	358480	0	0	13143.3
6B	0.03	0.3	0.8	355034	358328	0	0	8398.45
6B	0.03	0.4	0.8	353958	358180	0	0	4312.09
6B	0.03	0.5	0.8	352922	357975	0	0	346.683
6B	0.03	0.6	0.8	351924	357841	0	0	0
6B	0.03	0.7	0.8	350946	357753	0	0	0
6B	0.03	0.8	0.8	349978	357693	0	0	0
6B	0.03	0.9	0.8	349017	357634	0	0	0
6B	0.03	1	0.8	348061	357581	0	0	0
6B	0.03	1.2	0.8	346206	356995	0	0	0
6B	0.03	1.4	0.8	344477	356114	0	0	0
6B	0.03	1.6	0.8	342871	355360	108.374	0	0
6B	0.03	1.8	0.8	341416	353731	5591.07	0	0
6B	0.03	2	0.8	340080	353322	6678.89	0	0
6B	0.03	2.5	0.8	336835	352816	6929.46	0	0
6B	0.03	3	0.8	333693	352220	7127.45	0	0
6B	0.03	3.5	0.8	330649	351715	7399.35	0	0
6B	0.03	4	0.8	327654	351496	7604.54	0	0
6B	0.03	4.5	0.8	324693	351244	7765.74	0	0
6B	0.03	5	0.8	321751	351076	7760.66	0	0
6B	0.01	0.05	0.9	537471	539173	60000	60000	60000
6B	0.01	0.1	0.9	535770	539173	60000	60000	60000
6B	0.01	0.2	0.9	532405	538895	60000	60000	60000
6B	0.01	0.3	0.9	529262	538609	60000	60000	60000
6B	0.01	0.4	0.9	526160	538531	60000	60000	60000
6B	0.01	0.5	0.9	523072	538391	60000	60000	58522.8
6B	0.01	0.6	0.9	520095	537242	60000	60000	44012.4
6B	0.01	0.7	0.9	517402	534693	60000	60000	17424.2
6B	0.01	0.8	0.9	515025	532886	60000	60000	2035.28
6B	0.01	0.9	0.9	512832	532462	60000	60000	0
6B	0.01	1	0.9	510673	531694	60000	56007.6	0
6B	0.01	1.2	0.9	506670	529291	60000	43432.2	0
6B	0.01	1.4	0.9	503185	525902	60000	27602.2	0
6B	0.01	1.6	0.9	500164	521594	60000	8817.7	0
6B	0.01	1.8	0.9	497695	519184	60000	0	0

6B	0.01	2	0.9	495328	518770	60000	0	0
6B	0.01	2.5	0.9	489551	518068	60000	0	0
6B	0.01	3	0.9	483975	516526	55874.6	0	0
6B	0.01	3.5	0.9	478728	514485	50554.6	0	0
6B	0.01	4	0.9	473692	513426	48122.8	0	0
6B	0.01	4.5	0.9	468835	511697	44442.1	0	0
6B	0.01	5	0.9	464134	510781	42699.1	0	0
6B	0.02	0.05	0.9	427226	428462	55388.3	39744.8	0
6B	0.02	0.1	0.9	426040	428209	60000	19529.6	0
6B	0.02	0.2	0.9	424071	427745	60000	0	0
6B	0.02	0.3	0.9	422241	427713	60000	0	0
6B	0.02	0.4	0.9	420429	427609	59541.3	0	0
6B	0.02	0.5	0.9	418662	427261	55443.7	0	0
6B	0.02	0.6	0.9	417017	426267	51456.8	0	0
6B	0.02	0.7	0.9	415619	424105	48444.3	0	0
6B	0.02	0.8	0.9	414492	423226	49035.2	0	0
6B	0.02	0.9	0.9	413419	422958	46685.9	0	0
6B	0.02	1	0.9	412368	422806	45515	0	0
6B	0.02	1.2	0.9	410295	422635	44228.9	0	0
6B	0.02	1.4	0.9	408256	422454	43290.9	0	0
6B	0.02	1.6	0.9	406242	422285	42554.8	0	0
6B	0.02	1.8	0.9	404246	422067	41781.2	0	0
6B	0.02	2	0.9	402286	421638	40465.4	0	0
6B	0.02	2.5	0.9	397550	420894	38469.7	0	0
6B	0.02	3	0.9	392948	420138	36433.2	0	0
6B	0.02	3.5	0.9	388471	419446	34931.8	0	0
6B	0.02	4	0.9	384083	418951	33964.4	0	0
6B	0.02	4.5	0.9	379747	418615	33233.6	0	0
6B	0.02	5	0.9	375452	418140	32600.2	0	0
6B	0.03	0.05	0.9	358108	359104	0	26526.8	10851.5
6B	0.03	0.1	0.9	357202	358920	0	13524.5	20673.4
6B	0.03	0.2	0.9	355588	358652	0	7690.34	21569.9
6B	0.03	0.3	0.9	354104	358455	0	4504.08	18342.2
6B	0.03	0.4	0.9	352670	358332	0	3322.5	16621.6
6B	0.03	0.5	0.9	351273	358174	0	2048.44	14000.5
6B	0.03	0.6	0.9	349908	358044	1608.15	0	12523.9
6B	0.03	0.7	0.9	348563	357865	3354.12	0	10672
6B	0.03	0.8	0.9	347253	357592	4747.05	0	10742.7
6B	0.03	0.9	0.9	345975	357346	6055.75	0	7493.45
6B	0.03	1	0.9	344726	357080	7733.84	0	3678.48
6B	0.03	1.2	0.9	342285	356761	9923.24	0	0
6B	0.03	1.4	0.9	339898	356324	10548.4	0	0
6B	0.03	1.6	0.9	337575	355901	11852.7	0	0
6B	0.03	1.8	0.9	335351	354593	15898.4	0	0
6B	0.03	2	0.9	333300	352928	21053.5	0	0
6B	0.03	2.5	0.9	328804	350705	27507.6	0	0
6B	0.03	3	0.9	324460	350354	27500.9	0	0

6B	0.03	3.5	0.9	320175	350002	27846.3	0	0
6B	0.03	4	0.9	315931	349780	27897.3	0	0
6B	0.03	4.5	0.9	311714	349560	28053.6	0	0
6B	0.03	5	0.9	307518	349364	28084.5	0	0
6B	0.01	0.05	0.95	537434	539173	60000	60000	60000
6B	0.01	0.1	0.95	535696	539173	60000	60000	60000
6B	0.01	0.2	0.95	532239	539006	60000	60000	60000
6B	0.01	0.3	0.95	528992	538447	60000	60000	60000
6B	0.01	0.4	0.95	525848	538398	60000	60000	60000
6B	0.01	0.5	0.95	522719	538337	60000	60000	60000
6B	0.01	0.6	0.95	519607	538186	60000	60000	59395.3
6B	0.01	0.7	0.95	516670	536087	60000	60000	38485.3
6B	0.01	0.8	0.95	514047	533951	60000	60000	20048.6
6B	0.01	0.9	0.95	511745	531289	60000	60000	0
6B	0.01	1	0.95	509588	531077	60000	60000	0
6B	0.01	1.2	0.95	505407	529224	60000	50369	0
6B	0.01	1.4	0.95	501682	526162	60000	36214.1	0
6B	0.01	1.6	0.95	498302	523232	60000	25113.6	0
6B	0.01	1.8	0.95	495481	519331	60000	9962.62	0
6B	0.01	2	0.95	492889	518089	60000	5312.08	0
6B	0.01	2.5	0.95	486717	516971	60000	1267.85	0
6B	0.01	3	0.95	480753	516319	60000	0	0
6B	0.01	3.5	0.95	474845	516068	60000	0	0
6B	0.01	4	0.95	468985	515716	60000	0	0
6B	0.01	4.5	0.95	463177	515142	59803.5	0	0
6B	0.01	5	0.95	457440	514480	58526.3	0	0
6B	0.02	0.05	0.95	427149	428488	55853.7	43205.9	0
6B	0.02	0.1	0.95	425867	428239	60000	20934.9	0
6B	0.02	0.2	0.95	423726	427808	60000	10495.1	0
6B	0.02	0.3	0.95	421709	427689	60000	8584.96	0
6B	0.02	0.4	0.95	419768	427269	60000	1435.61	0
6B	0.02	0.5	0.95	417932	427035	60000	0	0
6B	0.02	0.6	0.95	416160	426440	59137.6	0	0
6B	0.02	0.7	0.95	414545	425003	57225.3	0	0
6B	0.02	0.8	0.95	413146	423854	58160.7	0	0
6B	0.02	0.9	0.95	411853	423086	60000	0	0
6B	0.02	1	0.95	410617	422897	59938.6	0	0
6B	0.02	1.2	0.95	408172	422745	59131.4	0	0
6B	0.02	1.4	0.95	405760	422523	58024.8	0	0
6B	0.02	1.6	0.95	403380	422342	57486.2	0	0
6B	0.02	1.8	0.95	401023	422189	56997.7	0	0
6B	0.02	2	0.95	398683	421944	56150.7	0	0
6B	0.02	2.5	0.95	392949	421206	53265.5	0	0
6B	0.02	3	0.95	387357	420641	51964.6	0	0
6B	0.02	3.5	0.95	381854	419950	50391.9	0	0
6B	0.02	4	0.95	376448	419596	49800.1	0	0
6B	0.02	4.5	0.95	371080	419210	49180.4	0	0

6B	0.02	5	0.95	365758	418829	48614.5	0	0
6B	0.03	0.05	0.95	358031	359115	0	28304.8	13779.3
6B	0.03	0.1	0.95	357013	358974	0	21412.2	22261.2
6B	0.03	0.2	0.95	355135	358776	0	14781.7	23091.2
6B	0.03	0.3	0.95	353351	358622	0	13027.4	20199.5
6B	0.03	0.4	0.95	351620	358446	1439.57	10599.1	17785.5
6B	0.03	0.5	0.95	349934	358272	4970.88	6511.74	15361.9
6B	0.03	0.6	0.95	348280	358147	8447.39	2315.42	13921.9
6B	0.03	0.7	0.95	346648	357943	8556.7	2795.83	13700.9
6B	0.03	0.8	0.95	345057	357643	10462	1195.12	16592.6
6B	0.03	0.9	0.95	343500	357378	12629.1	448.378	16944.1
6B	0.03	1	0.95	341977	357035	13071.4	0	17830.3
6B	0.03	1.2	0.95	339016	356494	16766	0	11434.2
6B	0.03	1.4	0.95	336146	355976	20349.7	0	5497.28
6B	0.03	1.6	0.95	333352	355329	25113.7	0	0
6B	0.03	1.8	0.95	330641	354680	26469.2	0	0
6B	0.03	2	0.95	328008	353829	28864.3	0	0
6B	0.03	2.5	0.95	321981	349829	40506.6	0	0
6B	0.03	3	0.95	316582	348722	43211.4	0	0
6B	0.03	3.5	0.95	311250	348407	43566.7	0	0
6B	0.03	4	0.95	305958	348199	43281.1	0	0
6B	0.03	4.5	0.95	300692	347924	43506	0	0
6B	0.03	5	0.95	295458	347669	43698.6	0	0

VaR_4	VaR_5	VaR_6	CVaR_1	CVaR_2	CVaR_3	CVaR_4	CVaR_5	CVaR_6
33295.8	0	60000	60000	60000	60000	33470.5	0	60000
36306.1	0	60000	60000	60000	60000	36342.1	0	60000
57372.3	57372.3	57372.3	57372.3	57372.3	57372.3	57372.3	57372.3	57372.3
43935.3	55786.6	55786.6	55786.6	55786.6	55786.6	55786.6	55786.6	55786.6
47708	49789.3	49789.3	49789.3	49789.3	49789.3	49789.3	49789.3	49789.3
44529.1	46581.1	46581.1	46581.1	46581.1	46581.1	46581.1	46581.1	46581.1
30476.8	33919.7	28891	33919.7	33919.7	33919.7	33919.7	33919.7	33919.7
22254.8	27242.4	22290.4	27242.4	27242.4	27242.4	27242.4	27242.4	27242.4
19211.6	24633.1	19654.6	24633.1	24633.1	24633.1	24633.1	24633.1	24633.1
14976.1	21351.3	16077.3	21351.3	21351.3	21351.3	21351.3	21351.3	21351.3
11888.6	19144.2	13676.1	19144.2	19144.2	19144.2	19144.2	19144.2	19144.2
5942.99	13515.5	6995.74	13515.5	13515.5	13515.5	13515.5	13515.5	13515.5
3042.52	5784.11	3146.13	10607	10607	10607	10607	10607	10607
11.9481	0	0	7669.96	7669.96	7669.96	7669.96	7669.96	7669.96
0	171.792	0	7524.12	7524.12	7524.12	7524.12	7524.12	7524.12
77.2042	0	0	7359.78	7359.78	7359.78	7359.78	7359.78	7359.78
0	0	0	7162.21	7162.21	7162.21	7162.21	7162.21	7162.21
10.2676	0	0	6910.39	6910.39	6910.39	6910.39	6910.39	6910.39
51.8194	113.64	0	6764.62	6764.62	6764.62	6764.62	6764.62	6764.62
71.0614	96.9912	0	6703.55	6703.55	6703.55	6703.55	6703.55	6703.55
34.9344	60.0144	0	6630.61	6630.61	6630.61	6630.61	6630.61	6630.61
199.243	126.231	0	6586.97	6586.97	6586.97	6586.97	6586.97	6586.97
29299.8	34307.2	29567.4	34307.2	34307.2	34307.2	34307.2	34307.2	34307.2
21438.2	27625.1	22735.1	27625.1	27625.1	27625.1	27625.1	27625.1	27625.1
17528.1	23809.8	18547.1	23809.8	23809.8	23809.8	23809.8	23809.8	23809.8
12905.5	19940.4	14388.7	19940.4	19940.4	19940.4	19940.4	19940.4	19940.4
10802.4	17656.4	12106.4	17656.4	17656.4	17656.4	17656.4	17656.4	17656.4
6170.42	13866	7313.43	13866	13866	13866	13866	13866	13866
3895.8	9161.55	4245.68	11476	11476	11476	11476	11476	11476
2459.04	5623.29	2326.16	9976.34	9976.34	9976.34	9976.34	9976.34	9976.34
363.751	350.371	132.473	8114.21	8114.21	8114.21	8114.21	8114.21	8114.21
314.001	448.272	88.3502	7945.68	7945.68	7945.68	7945.68	7945.68	7945.68
8.22592	606.547	0	7799.74	7799.74	7799.74	7799.74	7799.74	7799.74
0	494.381	0	7654.14	7654.14	7654.14	7654.14	7654.14	7654.14
89.1504	424.497	0	7521.2	7521.2	7521.2	7521.2	7521.2	7521.2
152.942	50.2611	0	7365.77	7365.77	7365.77	7365.77	7365.77	7365.77
128.142	0	0	7167.82	7167.82	7167.82	7167.82	7167.82	7167.82
28.2778	0	0	7022.29	7022.29	7022.29	7022.29	7022.29	7022.29
165.771	174.858	0	6814.33	6814.33	6814.33	6814.33	6814.33	6814.33
122.275	111.185	0	6710.61	6710.61	6710.61	6710.61	6710.61	6710.61
208.726	31.635	0	6591.81	6591.81	6591.81	6591.81	6591.81	6591.81
339.009	17.7175	0	6475.12	6475.12	6475.12	6475.12	6475.12	6475.12
475.15	0	0	6356.56	6356.56	6356.56	6356.56	6356.56	6356.56
379.039	31.5858	0	6285.25	6285.25	6285.25	6285.25	6285.25	6285.25
28853.8	34429.8	29690	34429.8	34429.8	34429.8	34429.8	34429.8	34429.8
28853.8	34429.8	29690	34429.8	34429.8	34429.8	34429.8	34429.8	34429.8

3114.88	2956.39	2931.46	10631.1	10631.1	10631.1	10631.1	10631.1	10631.1
1259.09	1227.46	860.531	8851.92	8851.92	8851.92	8851.92	8851.92	8851.92
940.518	1422.68	686.53	8620.21	8620.21	8620.21	8620.21	8620.21	8620.21
759.327	1294.24	753.603	8461.4	8461.4	8461.4	8461.4	8461.4	8461.4
316.258	1101.85	479.473	8183.52	8183.52	8183.52	8183.52	8183.52	8183.52
337.413	1056.81	361.772	8004.91	8004.91	8004.91	8004.91	8004.91	8004.91
237.044	815.65	174.85	7878.25	7878.25	7878.25	7878.25	7878.25	7878.25
250.632	677.554	48.6349	7759.13	7759.13	7759.13	7759.13	7759.13	7759.13
316.004	337.33	0	7608.72	7608.72	7608.72	7608.72	7608.72	7608.72
436.031	298.921	0	7339.35	7339.35	7339.35	7339.35	7339.35	7339.35
481.385	292.795	0	7159.34	7159.34	7159.34	7159.34	7159.34	7159.34
345.82	371.053	0	7034.83	7034.83	7034.83	7034.83	7034.83	7034.83
291.349	343.399	0	6933.03	6933.03	6933.03	6933.03	6933.03	6933.03
308.511	241.879	0	6829.11	6829.11	6829.11	6829.11	6829.11	6829.11
309.429	12.4415	0	6577.49	6577.49	6577.49	6577.49	6577.49	6577.49
438.462	10.0594	0	6408.3	6408.3	6408.3	6408.3	6408.3	6408.3
420.828	0	0	6293.01	6293.01	6293.01	6293.01	6293.01	6293.01
485.765	0	0	6220.95	6220.95	6220.95	6220.95	6220.95	6220.95
462.995	0	0	6193.37	6193.37	6193.37	6193.37	6193.37	6193.37
430.739	0	0	6159.25	6159.25	6159.25	6159.25	6159.25	6159.25
39084.7	0	60000	60000	60000	60000	39090.4	0	60000
40212.3	0	60000	60000	60000	60000	40212.3	0	60000
57889.5	57889.5	57889.5	57889.5	57889.5	57889.5	57889.5	57889.5	57889.5
56898.6	56898.6	56898.6	56898.6	56898.6	56898.6	56898.6	56898.6	56898.6
49708	50997.8	50997.8	50997.8	50997.8	50997.8	50997.8	50997.8	50997.8
47759.6	49355.5	49355.5	49355.5	49355.5	49355.5	49355.5	49355.5	49355.5
39566.1	41421.1	31941.8	41421.1	41421.1	41421.1	41421.1	41421.1	41421.1
30688.1	33834.8	30263	33834.8	33834.8	33834.8	33834.8	33834.8	33834.8
24600.9	28838.2	24941.4	28838.2	28838.2	28838.2	28838.2	28838.2	28838.2
21242.9	25824.3	21627.8	25824.3	25824.3	25824.3	25824.3	25824.3	25824.3
19152.7	24220.5	19951.7	24220.5	24220.5	24220.5	24220.5	24220.5	24220.5
13394.5	18768.9	14043.4	18768.9	18768.9	18768.9	18768.9	18768.9	18768.9
9754.09	15516.7	10847.5	15516.7	15516.7	15516.7	15516.7	15516.7	15516.7
5412.33	5725.49	5788.84	11752.4	11752.4	11752.4	11752.4	11752.4	11752.4
5366.41	5815.23	5663.3	11492.5	11492.5	11492.5	11492.5	11492.5	11492.5
5617.99	5559.48	5399.21	11292.1	11292.1	11292.1	11292.1	11292.1	11292.1
5301.13	5356.13	4935.11	10872.3	10872.3	10872.3	10872.3	10872.3	10872.3
5586.73	5287.42	4769.16	10639.8	10639.8	10639.8	10639.8	10639.8	10639.8
5385.41	5189.87	4643.8	10463.9	10463.9	10463.9	10463.9	10463.9	10463.9
5651.58	5098.08	4407.53	10319.3	10319.3	10319.3	10319.3	10319.3	10319.3
5490.54	4976.3	4712.01	10211.2	10211.2	10211.2	10211.2	10211.2	10211.2
5502.35	4913.31	4667.21	10153.7	10153.7	10153.7	10153.7	10153.7	10153.7
33113.4	37245.8	33773	37245.8	37245.8	37245.8	37245.8	37245.8	37245.8
26543.3	31297.4	27657.3	31297.4	31297.4	31297.4	31297.4	31297.4	31297.4
21577.6	26792.8	22964.8	26792.8	26792.8	26792.8	26792.8	26792.8	26792.8
17385.9	23146	19153.9	23146	23146	23146	23146	23146	23146
16759.7	22229.7	17944.3	22229.7	22229.7	22229.7	22229.7	22229.7	22229.7

12019	17729.8	13008.1	17729.8	17729.8	17729.8	17729.8	17729.8	17729.8
10275.7	16000.5	11303.5	16000.5	16000.5	16000.5	16000.5	16000.5	16000.5
8734.49	14798.1	9392.76	14798.1	14798.1	14798.1	14798.1	14798.1	14798.1
5583.78	6351.35	6049.33	12085.7	12085.7	12085.7	12085.7	12085.7	12085.7
5403.92	6132.91	5991.85	11873.4	11873.4	11873.4	11873.4	11873.4	11873.4
5321.61	6006.27	6001.84	11735.7	11735.7	11735.7	11735.7	11735.7	11735.7
5123.49	5791.26	5904.13	11494	11494	11494	11494	11494	11494
5548.72	5624	5679.55	11306.9	11306.9	11306.9	11306.9	11306.9	11306.9
5417.5	5492.12	5367.78	11050.3	11050.3	11050.3	11050.3	11050.3	11050.3
5488.02	5419	5138.31	10884.8	10884.8	10884.8	10884.8	10884.8	10884.8
5452.63	5479.42	5000.58	10757.9	10757.9	10757.9	10757.9	10757.9	10757.9
5428.65	5102.02	4878.51	10440.8	10440.8	10440.8	10440.8	10440.8	10440.8
5413.69	4948.32	4838.66	10234.6	10234.6	10234.6	10234.6	10234.6	10234.6
5335.94	4759.7	4879.24	10119.7	10119.7	10119.7	10119.7	10119.7	10119.7
5273.29	4660.13	4834.47	10041.9	10041.9	10041.9	10041.9	10041.9	10041.9
5408.09	4587.64	4726.56	9961.57	9961.57	9961.57	9961.57	9961.57	9961.57
5286.04	4485.97	4594.34	9879.77	9879.77	9879.77	9879.77	9879.77	9879.77
33026.1	37343.9	33871.1	37343.9	37343.9	37343.9	37343.9	37343.9	37343.9
33026.1	37343.9	33871.1	37343.9	37343.9	37343.9	37343.9	37343.9	37343.9
14225.1	11681	14897.4	19997.2	19997.2	19997.2	19997.2	19997.2	19997.2
6509.86	7053.42	6958.9	12768.7	12768.7	12768.7	12768.7	12768.7	12768.7
6069.08	6694.38	6768.07	12448	12448	12448	12448	12448	12448
5917.21	6741.87	6619.83	12305	12305	12305	12305	12305	12305
5729.45	6421.53	6369.42	12050.3	12050.3	12050.3	12050.3	12050.3	12050.3
5556.84	6233.64	6065.65	11817.6	11817.6	11817.6	11817.6	11817.6	11817.6
5479.7	6055.86	5921.95	11675.2	11675.2	11675.2	11675.2	11675.2	11675.2
5299.15	5908.43	5778.44	11468.2	11468.2	11468.2	11468.2	11468.2	11468.2
5320.5	5789.84	5671.45	11306.3	11306.3	11306.3	11306.3	11306.3	11306.3
5488.3	5630.04	5453.1	11012.1	11012.1	11012.1	11012.1	11012.1	11012.1
5350.46	5518.73	5341.86	10782.3	10782.3	10782.3	10782.3	10782.3	10782.3
5413.11	5239.84	5274.45	10600.8	10600.8	10600.8	10600.8	10600.8	10600.8
5464.42	5013.16	5232.41	10415.6	10415.6	10415.6	10415.6	10415.6	10415.6
5434.86	4780.29	5174.65	10313	10313	10313	10313	10313	10313
5311.42	4617.09	5037.28	10123.1	10123.1	10123.1	10123.1	10123.1	10123.1
5274.5	4589.32	4917.13	10013.1	10013.1	10013.1	10013.1	10013.1	10013.1
5274.37	4473.27	4818.68	9899.71	9899.71	9899.71	9899.71	9899.71	9899.71
5283.46	4546.52	4781.2	9832.32	9832.32	9832.32	9832.32	9832.32	9832.32
5296.17	4525.54	4858.04	9809.13	9809.13	9809.13	9809.13	9809.13	9809.13
5260.17	4486.96	4814.69	9779.65	9779.65	9779.65	9779.65	9779.65	9779.65
40212.3	0	60000	60000	60000	60000	40212.3	0	60000
40212.3	0	60000	60000	60000	60000	40212.3	0	60000
58249.5	0	58249.5	58249.5	58249.5	58249.5	58249.5	58249.5	58249.5
42368.8	0	57562.5	57562.5	57562.5	57562.5	57562.5	57562.5	57562.5
50130.9	0	52336.7	52336.7	52336.7	52336.7	52336.7	52336.7	52336.7
49767.9	0	50844.8	50844.8	50844.8	50844.8	50844.8	50844.8	50844.8
44193.5	0	45266.5	45266.5	45266.5	45266.5	45266.5	45266.5	45266.5
35192.1	0	34402.5	37159.9	37159.9	37159.9	37159.9	37159.9	37159.9

28926.9	0	29201.4	32243.3	32243.3	32243.3	32243.3	32243.3	32243.3
26192.2	0	26691.5	29808.8	29808.8	29808.8	29808.8	29808.8	29808.8
22753.1	0	23230.4	26638.7	26638.7	26638.7	26638.7	26638.7	26638.7
18744.9	0	19178	22566.8	22566.8	22566.8	22566.8	22566.8	22566.8
14560.2	3939.19	15126.6	19040	19040	19040	19040	19040	19040
12203.4	8885.09	12845.8	16974.8	16974.8	16974.8	16974.8	16974.8	16974.8
9152.29	9905.61	10128.5	14345.6	14345.6	14345.6	14345.6	14345.6	14345.6
9412.81	9397.33	9908.01	14149.5	14149.5	14149.5	14149.5	14149.5	14149.5
9007.95	9748.23	9586.65	13774.7	13774.7	13774.7	13774.7	13774.7	13774.7
8625.6	9012.8	9359.47	13426.2	13426.2	13426.2	13426.2	13426.2	13426.2
8505.48	8705.58	9237.73	13310	13310	13310	13310	13310	13310
8512.88	8367.35	9196.1	13163.5	13163.5	13163.5	13163.5	13163.5	13163.5
8524.65	8171.86	9150.07	13076.4	13076.4	13076.4	13076.4	13076.4	13076.4
8505.7	8095	8842.11	12940.5	12940.5	12940.5	12940.5	12940.5	12940.5
35849.5	0	36706.9	39468.7	39468.7	39468.7	39468.7	39468.7	39468.7
30568.5	0	31943.9	34733	34733	34733	34733	34733	34733
25061.9	29288.5	26422.9	29288.5	29288.5	29288.5	29288.5	29288.5	29288.5
21274.7	0	22856	25843.2	25843.2	25843.2	25843.2	25843.2	25843.2
20094.2	0	21641.8	24720	24720	24720	24720	24720	24720
16769.6	0	17666.1	21068.5	21068.5	21068.5	21068.5	21068.5	21068.5
14303.7	6005.92	15276.8	19100	19100	19100	19100	19100	19100
13258.1	9006.06	14286.4	18332.7	18332.7	18332.7	18332.7	18332.7	18332.7
11639.7	9674.57	12741.2	16805.2	16805.2	16805.2	16805.2	16805.2	16805.2
9549.65	10088.1	10730.6	14835	14835	14835	14835	14835	14835
9355.19	9942.53	10566.2	14694.3	14694.3	14694.3	14694.3	14694.3	14694.3
9100.16	9902.41	10368.1	14429.3	14429.3	14429.3	14429.3	14429.3	14429.3
9252.22	9863.73	10196.8	14175.1	14175.1	14175.1	14175.1	14175.1	14175.1
9290.86	9530.81	9970.66	13947.5	13947.5	13947.5	13947.5	13947.5	13947.5
8912.41	9460.05	9860.95	13756.5	13756.5	13756.5	13756.5	13756.5	13756.5
8700.01	9001.14	9575.33	13561.7	13561.7	13561.7	13561.7	13561.7	13561.7
8446.94	8691.96	9197.68	13245.7	13245.7	13245.7	13245.7	13245.7	13245.7
8355.39	8324.46	9034.75	13069	13069	13069	13069	13069	13069
8467.26	7985.52	8874.17	12905.5	12905.5	12905.5	12905.5	12905.5	12905.5
8425.43	7830.13	8864.59	12810.8	12810.8	12810.8	12810.8	12810.8	12810.8
8466.39	7714.08	8751.88	12728.8	12728.8	12728.8	12728.8	12728.8	12728.8
8463.36	7643.48	8759.56	12703.9	12703.9	12703.9	12703.9	12703.9	12703.9
35984.2	0	36764.4	39526.2	39526.2	39526.2	39526.2	39526.2	39526.2
35959.8	0	36745.7	39496.4	39496.4	39496.4	39496.4	39496.4	39496.4
19713.2	14237.1	21047	24543.3	24543.3	24543.3	24543.3	24543.3	24543.3
10335.3	10973.1	11567.8	15549.6	15549.6	15549.6	15549.6	15549.6	15549.6
10013.4	10822	11247.4	15374.5	15374.5	15374.5	15374.5	15374.5	15374.5
9971.54	10388.1	11014.1	15119.2	15119.2	15119.2	15119.2	15119.2	15119.2
9739.69	10297.9	10932.4	14986.2	14986.2	14986.2	14986.2	14986.2	14986.2
9722.65	10349.5	10866.8	14882.7	14882.7	14882.7	14882.7	14882.7	14882.7
9576.43	10164.2	10863.7	14658.1	14658.1	14658.1	14658.1	14658.1	14658.1
9607.32	10040.9	10681.3	14517.6	14517.6	14517.6	14517.6	14517.6	14517.6
9477.14	9601.17	10426.9	14267.8	14267.8	14267.8	14267.8	14267.8	14267.8

8962.55	9260.12	10103.1	13848.6	13848.6	13848.6	13848.6	13848.6	13848.6
8761.84	8969.15	9509.12	13577.1	13577.1	13577.1	13577.1	13577.1	13577.1
8730.51	8901.87	9159.17	13420.1	13420.1	13420.1	13420.1	13420.1	13420.1
8676.11	8661.09	9303.17	13217.5	13217.5	13217.5	13217.5	13217.5	13217.5
8581.59	8406.24	9177.25	13107.4	13107.4	13107.4	13107.4	13107.4	13107.4
8392.82	7887.87	9052.72	12893.2	12893.2	12893.2	12893.2	12893.2	12893.2
8370.12	7768.97	8701.93	12758	12758	12758	12758	12758	12758
8433.38	7685.6	8865.26	12702.9	12702.9	12702.9	12702.9	12702.9	12702.9
8392.48	7690.82	8817.35	12676.1	12676.1	12676.1	12676.1	12676.1	12676.1
8406.46	7714.48	8902.91	12659	12659	12659	12659	12659	12659
8232.7	7639.77	8722.03	12606	12606	12606	12606	12606	12606

VaR_4	VaR_5	VaR_6	CVaR_1	CVaR_2	CVaR_3	CVaR_4	CVaR_5	CVaR_6
13888.4	0	0	60000	59992	60000	19023.6	0	973.446
13888.4	0	0	60000	59992	60000	19023.6	0	973.446
0	0	0	60000	59992	60000	6135.91	0	1030.35
0	0	0	60000	59992	60000	4242.98	0	1042.58
0	0	0	60000	57983.5	60000	3866.16	0	1051.54
0	0	0	60000	57616.3	49360.2	3745.53	0	1556.61
0	0	0	60000	58711.3	29107	3779.19	0	2234.41
0	0	0	60000	59941.3	5992.7	3870.14	0	2966.51
0	0	0	60000	58239.8	5548.91	3390.19	0	2898.23
0	0	0	60000	56189.4	5052.65	2992.23	0	2801.64
0	0	0	60000	52837.5	4760.69	2712.05	0	2707.32
0	0	0	60000	36780.6	4157.77	2226.5	0	2301.94
0	0	0	60000	14203.1	3723.69	2615.05	0	2001.64
0	0	0	60000	5171	3284.17	2378.66	0	1924.59
0	0	0	60000	4639.99	2993.7	2269.33	0	1636.69
0	0	0	60000	4196.25	2638.46	2016.57	0	1383.68
0	0	0	46543.6	3863.72	2496.4	1973.32	56.1488	1360.91
0	0	0	38768.4	4126.45	2499.4	2323.88	421.372	1626.26
0	0	0	34995.5	4171.65	2622.73	2633.6	696.333	1733.88
0	0	0	31681.9	4275.04	2722.41	2701.7	939.624	1895.52
0	0	0	28921	4282.63	2829.38	2756.8	1189.25	2106.5
0	0	0	26655.6	4256.25	2965.79	2796.79	1501.88	2219.56
0	0	30308.6	55514.3	36228.5	354.18	7398.24	0	35078.9
0	0	30177.4	60000	14791.3	1646.31	8199.53	0	34947.7
0	0	30149.3	57665.8	4711.32	2477.46	4059.18	0	34919.6
0	0	30156.9	52606.9	4271.06	2242.65	3642.02	0	34927.2
0	0	30118.6	50288.3	4294.14	2506.59	4123.32	0	34888.9
0	0	29158.1	48413.9	4378.04	2821.53	3893.49	0	33986.1
0	0	17927.8	42877.3	4534.67	3083.72	3312.59	0	23012.2
0	0	0	38594.7	4447.94	3089.03	3220.27	78.2687	6419.48
0	0	0	35990.1	4385.81	2926.63	3360.67	244.4	6003.16
0	0	0	34248.6	4501.58	2917.79	3493.2	381.046	5618.81
0	0	0	33213	4481.75	2970.69	3521.64	496.132	5285.26
0	0	0	31367.1	4545.74	3133.26	3559.92	738.984	4771.53

0	0	0	30273	4483.85	3209.43	3631.48	952.732	4467.9
0	0	0	28827.9	4517.78	3249.14	3815.7	1225.38	4308.63
0	0	0	27647.4	4573.45	3204.64	3843.97	1361.68	4106.24
0	0	0	25858.6	4615.91	3187.52	3925.06	1520.6	3995.27
0	0	0	22880.8	4571.52	3229.82	3827.25	1980.48	4005.37
0	0	0	21159.4	4593.54	3268.67	3898.99	2293.03	4004.49
0	0	0	19937.3	4625.98	3477.52	3819.34	2423.74	3838.55
0	0	0	19202	4708.67	3554.23	3708.34	2542.39	3689.17
0	0	0	18465.1	4771.62	3623.73	3621.2	2674.06	3570.67
0	0	0	18077.4	4796.91	3618.95	3575.89	2696.9	3458.44
21417.6	0	29956.9	216.028	26843.1	14500.4	27056.9	4.78252	34727.2
10879.4	0	29964.7	1626.57	10905.5	21287.6	17582.9	28.8591	34735
0	0	29976.1	3255.17	5723.81	17320.7	7537.69	1034.05	34746.4
0	0	30006.3	3317.32	5035.87	13079.2	7353.51	2315.33	34776.6
0	0	30002.5	3833.81	4965.62	9295.53	7376.89	3087.97	34772.8
0	0	30031.5	4420.69	5186.12	5453.38	7272.13	3505.83	34801.8
0	0	30024.9	4458.1	5079.82	4805.09	6548.73	3483.98	34795.2
0	0	30000.6	4503.23	5002.66	4476.8	6122.31	3473.7	34770.9
0	0	30001.6	4523.4	4938.52	4315.63	5863.06	3453.81	34771.9
0	0	29993.6	4594.96	4857.74	4151.11	5619.45	3460.84	34763.9
0	0	29804.7	4643.57	4800.22	4012.73	5586.87	3460.55	34613.4
0	0	25066.7	5046.66	5153.04	4015.68	5748.24	3715.5	30263.4
0	0	19064.3	5689.67	5465.25	4345.73	5790.46	3853.13	24728.7
0	0	13994.9	6147.44	5880.69	4629.49	5840.73	4211.52	20121.4
0	0	1690.4	11123	5704.43	4639.07	5787.17	4412.28	9383.9
0	0	0	12160.5	5630.11	4571.85	5658.34	4325.35	7377.67
0	0	0	12357.7	5480.58	4471.58	5242.74	4268.11	6535.38
0	0	0	12479.4	5307.29	4451.81	4890.72	4141.12	5783.25
0	0	0	12637.3	5342.39	4337.45	4608.64	4102.66	5084.43
0	0	0	12785.8	5202.39	4282.08	4514.82	4033.03	4944.33
0	0	0	12902.7	5182.54	4271.81	4322.75	4005.79	4716.02
0	0	0	12897.5	5220.4	4216.85	4272.15	3959.18	4624.36
18093.9	0	0	60000	60000	60000	22234.5	0	1946.89
18093.9	0	0	60000	60000	60000	22234.5	0	1946.89
7877.61	0	0	60000	60000	60000	12670.5	0	2032.53
0	0	0	60000	60000	60000	4810.77	0	2124.59
0	0	0	60000	60000	60000	3421.44	0	2147.49
0	0	0	60000	60000	58661.3	2894.12	0	2262.92
0	0	0	60000	60000	45250.8	3275.72	0	2941.23
0	0	0	60000	60000	21259.7	3383.14	0	3568.77
0	0	0	60000	60000	7452.76	3339.19	0	3167.39
0	0	0	60000	60000	4971.49	3090.77	0	2802.95
0	0	0	60000	56504.7	4470.35	2821.87	0	2331.49
0	0	0	60000	44699.7	3889.57	2533.25	0	1981.84
0	0	0	60000	29981.8	3489.13	2352.59	0	1533.64
0	0	0	60000	12984.6	3304.69	2550.13	0	1522.95
0	0	0	60000	4739.57	2973.24	2552.79	8.57323	1357.98

0	0	0	60000	4111.76	2719.84	2295.76	22.1864	1177.13
0	0	0	60000	3155.1	2260.29	1960.17	90.3146	973.702
0	0	0	56245.5	3231.97	2255.18	1993.28	299.057	1076.91
0	0	0	51378.9	3382.32	2420.56	2286.08	644.265	1184.67
0	0	0	49167.8	3409.09	2390.67	2478.03	794.882	1359.36
0	0	0	45803.3	3564.34	2619.46	2490.16	1127.11	1545.41
0	0	0	44279.9	3551.89	2618.94	2548.88	1295.65	1682
3968.34	0	34529.2	55954	41772.5	382.375	12187.3	0	38057.2
0	0	34527.3	60000	23321.4	1617.97	7168.61	0	38055.3
0	0	34471.1	60000	5188.14	2379.48	4654.48	0	37999.1
0	0	34452.8	60000	4444.32	2252.17	4762.02	0	37980.8
0	0	34056.8	59586.9	3995.73	2229.57	4294.21	0	37596.6
0	0	33746	55870	4081.73	2405.78	3658.78	0	37177.5
0	0	27060.6	52257.2	3720.73	2416.56	3184.28	0	30918.8
0	0	8805.53	49494.5	3485.19	2821.56	3227.6	72.5733	13638.3
0	0	0	50054.6	3408.67	2918.95	3475.13	329.756	5318.28
0	0	0	47949	3533.91	2984.85	3589.79	593.983	4939.6
0	0	0	46835.2	3583.37	3085.84	3665.61	796.49	4665.54
0	0	0	45690	3623.22	3114.87	3803.56	1013.39	4453.99
0	0	0	44857.4	3733.75	3015.07	3834.91	1242.79	4161.26
0	0	0	44161	3782.61	3050.97	3797.52	1395.6	3973.87
0	0	0	43454.3	3836.54	3076.08	3774.55	1455.57	3804.81
0	0	0	42344.5	3846	3064.88	3545.04	1673.31	3580.78
0	0	0	40412.2	3895.68	3091.86	3500.37	1781.35	3342.3
0	0	0	38640.5	3904.84	3096.91	3419.95	2139.58	3177.42
0	0	0	37183.1	3786.87	3118.25	3461.21	2427.99	3122.45
0	0	0	36254.9	3772.46	3126.91	3550.65	2444.19	3152.47
0	0	0	35579.5	3779.53	3221.25	3507.99	2609.87	3125.21
0	0	0	34992.8	3814.26	3247.01	3475.51	2654.27	3042.19
33665.5	0	33999.4	432.056	29807.4	14520.3	37280.8	0	37527.5
16948.8	0	34197.5	2018.2	17555.5	23623.1	22115.2	56.3623	37725.5
6951.29	0	34212	3701.83	12067.5	24423.6	13134.4	865.445	37740
5459.94	0	34222.2	4612.99	9063.07	21496.5	11710.5	2380.18	37750.3
4774.01	0	34669.2	5043.06	8020.64	19817.7	11041.2	2899.92	38107.2
5509.08	0	35000.8	5340.15	6997.63	17290.1	11651.5	3180.89	38351.4
5989.04	0	34955.4	6876.31	4695.29	15931.3	12015	3504.95	38338.7
3898.49	0	35370.1	8531.07	4742.17	14067.6	10116.5	3646.36	38628.2
0	0	35644.6	9848.62	4831.26	14002.3	6076.65	3821.45	38963.6
0	0	35754	11159	4817.72	11007.9	5915.46	3843.01	39063.1
0	0	35886.4	12628	5106.63	7520.49	5865.04	3801.57	39205.2
0	0	35831.6	14602.9	4918.84	3986.52	5735.32	3963.55	39170.3
0	0	34178	15247.5	4705.03	3846.31	5323.11	3957.13	37320.4
0	0	31496.8	16387.7	4541.2	3717.85	5242.76	3890.5	34941.3
0	0	22880.7	20016.4	4432.14	3929.94	4983.74	3789.38	26990.9
0	0	12360.7	24758.9	4317.35	3917.96	4886.69	3950	17054.4
0	0	0	30468.1	4334.22	3974.42	4648.81	3974.31	5163.34
0	0	0	30428.1	4244.87	3970.21	4438.59	3855.22	4850.88

0	0	0	30726.6	4203.95	3792.29	4186.31	3780.73	4441.78
0	0	0	30788	4237.42	3709.13	4058.28	3640.9	4339.21
0	0	0	30936.2	4150.64	3647.59	3976.81	3653.31	4096.77
0	0	0	30963	4147.85	3635.3	3877.23	3701.41	3890.44
21469.7	0	0	60000	60000	60000	24734.3	0	3893.78
21469.7	0	0	60000	60000	60000	24734.3	0	3893.78
15254.8	0	0	60000	60000	60000	19026.2	0	3996.1
0	0	181.929	60000	60000	60000	4746.6	0	4341.31
0	0	210.147	60000	60000	60000	3875.35	0	4369.53
0	0	244.788	60000	60000	60000	3014.71	0	4404.17
0	0	0	60000	60000	59438	2761.73	0	3591.81
0	0	0	60000	60000	40075	3324.1	0	3031.87
0	0	0	60000	60000	23535.8	3251.47	0	2488.17
0	0	0	60000	60000	4719.11	3456.44	0	2119.99
0	0	0	60000	60000	4219.77	3030.01	0	1686.77
0	0	0	60000	51138.5	3640.95	2711.1	0	1589.89
0	0	0	60000	37761	3557.14	2124.5	0	1474.59
0	0	0	60000	27283.2	2861.99	2286.53	0	1053.49
0	0	0	60000	13183.4	2521.31	2547.62	36.1512	1210.81
0	0	0	60000	8918.93	2365.54	2653.69	241.701	1420.28
0	0	0	60000	5080.54	2515.58	2920.73	499.295	1591.85
0	0	0	60000	3680.37	2248.09	2871.43	655.848	1676.92
0	0	0	60000	3394.07	2116.47	2811.67	714.592	1631.1
0	0	0	60000	2981.1	1941.33	2762.52	781.681	1630.78
0	0	0	59818.2	2584.02	1786.73	2696.69	911.847	1488.43
0	0	0	58638.2	2636.47	1887.8	2765.65	917.533	1602.77
11714.4	0	37471.6	56320	44601.9	312.706	19184.2	0	40265.2
10127.2	0	37366.1	60000	23980.5	1434.58	16727.3	0	40159.6
0	0	37545.9	60000	14005	2240.22	5865.07	0	40339.4
0	0	37033.5	60000	12292	2041.21	5468.95	0	39805.5
0	0	37370.3	60000	5502.19	2270.33	4590.95	0	40159.8
0	0	37328.8	60000	3506.01	1822.76	3795.59	0	40115.4
0	0	32905.1	59208.8	2781.12	1815.92	3360.5	0	35634.9
0	0	21115	57450.7	2797.09	1839.73	3033.01	37.8126	24475.1
0	0	9125.63	58308	2881.18	2282.33	3341.29	249.118	13248.2
0	0	603.223	60000	3026.62	2705.78	3469.25	609.075	5071.36
0	0	0	59943.6	3009.22	2458.15	3403.84	848.705	4017.96
0	0	0	59208.2	3034.96	2369.6	3498.97	1097.64	3652.47
0	0	0	58197.3	3040.96	2365.41	3576.77	1301.06	3360.49
0	0	0	57693.4	3120.07	2277.47	3522.04	1367.91	3127.36
0	0	0	57239.7	3102.68	2304.7	3541.06	1504.44	2859.78
0	0	0	56459.7	3121.81	2420.41	3523.48	1561	2696.36
0	0	0	53829.9	3151.32	2518.08	3661.27	1857.98	2798.29
0	0	0	52636.5	3017.52	2757.64	3371.44	1956.1	2827.06
0	0	0	51155.3	3021.89	2620.95	3650.45	2125.24	2733.9
0	0	0	50586.1	2966.05	2594.73	3741.97	2116.46	2716.35
0	0	0	50025.6	3027.82	2568.14	3773.2	2101.24	2676.66

0	0	0	49473.3	3142.63	2510.74	3824.71	2121.89	2611.99
38703.5	0	36878.4	864.113	31145.7	16844.7	41556.3	0	39672
21630.4	0	37109.2	2044.74	24473.6	24647.8	26478	109.915	39902.7
15969	0	37094.1	4030.58	18003.2	25546.1	20950.5	797.822	39887.6
15137.1	0	37096.7	4375.85	16297.4	22631.3	20253	1974.82	39890.2
14741.2	0	37581.5	5882.4	13920.9	20382.7	19517.2	2452.8	40239.7
14768.8	0	37740.8	9162.1	9954.97	18237.3	19517.3	2846.64	40340.5
15647.3	0	37861.2	12221.7	5817.4	16979.2	20161.4	3021.22	40461.5
12719.8	0	38040.5	12357.4	6398.9	16830.2	17520.6	3220.15	40491.8
7177.5	0	37897.4	14233.9	4901.64	19288.1	12181.8	3429.63	40356.9
3370.28	0	37988.1	15948.8	4311.42	19441.1	8745.26	3611.35	40463.1
0	0	37858.5	16369	3923.36	20323.3	5627.1	3761.81	40343.3
0	0	38003.5	19653.9	4065.72	14298.6	5417.49	3570.15	40386.1
0	0	37930	23096.9	4086.59	8634.6	5330.05	3512.24	40326.7
0	0	36994.5	27574.3	3840.59	2794.23	5311.1	3614.32	39278.5
0	0	33342.7	28855.4	3862.44	2820.83	5119.17	3552.6	35919.9
0	0	28343.4	31097.1	3857.32	2928.15	4898.49	3443.47	31239.5
0	0	4819.88	41939.4	3759.58	3803.78	4668.05	3752.76	8911.81
0	0	0	44445.1	3603.7	3647.44	4561.61	3729.16	4293.49
0	0	0	44771.1	3601.39	3406.29	4397.75	3536.34	3984.78
0	0	0	44475.3	3706.72	3491.75	4441.88	3670.53	3574.81
0	0	0	44708.1	3558.92	3342.87	4388.77	3456.9	3521.59
0	0	0	44873	3523.14	3270.66	4291.19	3363.57	3332.28

P1_Income	P2_Income	P3_Income	P4_Income	P5_Income	P6_Income	P1_Loss	P2_Loss	P3_Loss
0	2351.65	0	49409.2	366886	85957.2	60000	60000	60000
-7.09E-10	2351.65	8.58E-12	49409.2	366886	85957.2	60000	60000	60000
4117.11	5163.25	4248.28	44725.9	358986	85240.2	57004.5	56658.6	56979.1
5756.4	6840.84	6752.58	39194.6	358446	84286.5	55381.5	55016.1	55167.7
13503	14383.1	15803.3	17095.3	354956	80089.7	48853	48688.9	48390.1
17870.7	18319.1	18578	19663.5	344458	72669.2	45362.6	45192.4	45190.2
33918.2	34602.9	33581.6	35150.7	293699	41764.1	31739.7	31547.7	31794.3
42309.7	43269.5	41289.4	46412.7	241547	48106.5	24366.2	24200.2	24681
45632.9	46638.9	44372.9	50174.4	220893	51114.3	21588.2	21373.9	21939.6
49749.9	50940.7	48371.2	57588.7	191462	55079.7	17940.3	17805	18400.2
52485.9	53864.5	51176.8	62039.8	171957	57743.4	15478.8	15496.1	15862.6
59575.5	61042.6	58389.1	68278.7	126719	66135.2	9344.36	9435.93	10094.1
63180.6	64843.9	62262.2	71667.7	101945	71412.3	6130.81	6256.17	6825.84
66808.8	68514	65674.5	74443.9	77417.8	75948.7	3025.82	3102.07	3717.07
66892	68588.9	65745.4	74425.5	76780.7	76047.7	2854.96	2956.59	3526.01
67067.2	68775.8	65787.9	73746.9	76495.1	76200.5	2646.23	2755.68	3377.87
67242.5	68922	65878.9	73139.4	75928.9	76407.8	2445.4	2552.78	3068.55
67506.9	69188.1	66127	72557.3	74507.3	76738.3	2166.93	2293.85	2776.09
67648	69257.8	66317.8	72245.4	73671.8	76878.4	2045.45	2113.56	2633.2
67695.9	69292.4	66386.3	72119.8	73287.5	76951.4	1964.49	2066.66	2602.17
67784.1	69330.7	66486	71876.6	72842.8	77025.1	1907.76	2010.33	2522.53
67824.6	69336	66594.1	71652.7	72648.5	77013.2	1871.89	1986.84	2478.65
34175.2	36319.9	67507.8	40992.5	245579	40465.8	32024.4	31424.2	22059.6
42869.9	44993.5	49617.5	50917.8	224403	47616.2	24861.5	24254.9	21556.3
48129	51131.2	47981.1	55456.9	200560	51989.9	20771	19888.9	20533.5
53194.7	55888	50991	62450.4	169633	56631.2	16381.9	15734.6	16738.1
56120.8	58590.5	53328.3	63496.9	154333	59742.3	13897	13428.1	14375.5
60287	62479.4	58237.8	67795.4	125412	65943	9889.02	9412.22	10221.3
63022.7	65249.5	61277.9	70478.7	106166	70203.4	7233.12	6897.43	7658.38
64716.3	66921.4	63149.2	72675.7	93465.4	72407.6	5484.14	5345.25	6068.16
67025.6	69135.3	65459.7	74879.3	77512.5	75142.6	3483.09	3352.6	4051.79
67208.2	69219.1	65463.9	74791.6	76849.6	75328.2	3269.48	3258.1	3894.63
67344.6	69272.9	65528.8	74588.5	76391.4	75477.1	3086.75	3107.61	3745.77
67457.7	69265.2	65643	74268.4	76078.6	75636	2931.02	2896.27	3720.9
67474	69255.5	65676.1	74000.3	75958.7	75754.8	2794.58	2690.68	3509.88
67558.4	69260.1	65764.2	73462.5	75853.2	75863.3	2623.6	2591.04	3349.37
67639.5	69339	65958.9	73145.9	75019.2	76091.8	2481.85	2427.54	3115.45
67700.1	69372.7	66081	72834.3	74468.1	76311.1	2354.63	2327.27	2931.19
67783	69409.5	66286.3	72454.6	73498.1	76621.8	2108.03	2116.29	2634.56
67835.6	69431.3	66395.2	72154.8	73070	76705.9	1954.94	1970.15	2668.87
67920.4	69447.3	66542.6	71942.7	72840.7	76399.9	1830.18	1913.65	2521.03
68054.4	69482.1	66702.4	71709.2	72836.9	75704.1	1726.83	1821.01	2285.44
68215.7	69549.5	66867.4	71482.6	72840.2	74829.6	1630.25	1726.96	2274.01
68291.6	69622.5	66983.2	71281.4	72860.4	74324.8	1550.24	1626.67	2157.15
94874.2	60133.2	36031	43544.9	151896	40343.2	34429.8	26586.6	31994.6
94874.2	60133.2	36031	43544.9	151896	40343.2	34429.8	25424.6	31994.6

74564	69171.4	62968.9	72091.3	74903.4	71685.3	10288.8	5295.39	6783.4
67687.3	71112.6	65101.3	74336.8	76174.4	74107.5	4350.54	3561.73	4908.44
67978.7	70980.7	64972.8	74572.8	75436.9	74308.6	4132.28	3497.68	4650.67
68196.2	70862.6	65024.3	74373.7	75182.1	74374.1	3944.19	3466.46	4529.39
68057.3	70589.7	65271.6	74243.2	75123.4	74712.2	3598.8	3221.42	4173.07
67941.2	70410.8	65400.4	74133.6	75183.4	74914.1	3420.85	3100.4	3966.21
67923.2	70252.1	65450.7	74025.2	75209	75082	3252.43	3000.84	3935.6
67869.4	70082.6	65527	74016.5	75225.2	75091.2	3060.68	2950.78	3802.83
67913.6	69979.4	65623.4	73969.6	74861.8	75118.5	2936.73	2794.35	3638.74
68114.2	69980.8	65843.2	73263	74154	75515.2	2591.04	2438.02	3258.54
68266.2	69915.7	65958.8	72881.2	73624.8	75747.6	2384.04	2228.63	3099.34
68261.3	69951.3	66064.5	72586.9	73271	75938.7	2220.48	2126.52	2960.31
68247.4	69885.3	66203.4	72424	73058.5	75964.6	2096.12	1998.5	2874.26
68262.1	69765	66330.4	72318.6	72926	75924.1	1985.02	1918.4	2857.45
68317.2	69698.1	66592.4	72045.6	72898.5	75035.3	1791.69	1697.98	2491.01
68396.3	69672	66806.1	71770	72922.5	74339.5	1702.16	1667.07	2343.58
68469.7	69677.3	67016.1	71418	72903.9	73868.6	1594.33	1610.66	2291.5
68482.4	69706.1	67105.6	71296.4	72894.9	73391.6	1527.25	1548.76	2212.95
68481.2	69702.9	67143.7	71245.1	72895.1	73236.5	1446.14	1524.2	2193.01
68515.6	69689.4	67199.6	71177.8	72901.7	72965	1439.19	1506.56	2132.87
0	2351.65	0	49409.2	366886	85957.2	60000	60000	60000
0	2351.65	-2.91E-14	49409.2	366886	85957.2	60000	60000	60000
3664.97	5133.6	3416.62	46218.3	358774	85456.3	57644.4	57415.8	57666.3
4670.95	6325.86	5478.76	41996.9	358693	84725.3	56592.3	56350.3	56512.4
12670.9	13888.8	15436.2	17283.4	356940	80118.1	50214.6	49982.5	49917.9
15129.9	15727.7	16961.4	18660.5	349441	78284.5	48424.3	48307.3	48221.1
25990.2	26688.4	25450.4	26833.2	322974	54142	39848.8	39922.6	40070.9
36388.3	37139.4	35352.5	38651.1	278319	44092.6	31607	31373.7	32080.1
43304.6	44038.6	41629.2	48615.1	234369	49862.2	26093.6	25891.6	26614.2
47430.9	48296.6	45449.3	54541.9	207120	53630.1	22743.6	22810.3	23534.5
49636.5	50547.5	47581.6	58882.7	191090	55679.1	20875.9	21141.5	21840.6
57044.1	58008	54922	66950.7	143325	63292.3	14834.2	15356.7	15918.7
61571.2	62529	59065	71744.2	114121	68494.1	11331.1	11891.6	12457.2
66689.7	67622.5	64211.1	75852.8	78572.4	76891.6	7186.57	7857.57	8567.09
67039.2	67926.9	64315	75455.5	77702.4	76462.1	6855.89	7626.98	8195.89
67249.6	68170	64421.6	74697.9	77300.7	76467.1	6659.88	7408.86	8018.67
67632.5	68475.6	64852.3	73814.3	75455.4	76772.4	6213.77	7074.65	7774.75
67829.9	68665.1	65112.5	73240.2	74409.4	76882.9	6153.54	6844.29	7452.32
68024.3	68822.4	65372.3	72642.8	73581.7	76917.2	5962.6	6666.56	7359.94
68172.7	68998.1	65686.9	71772.4	73283.4	76844.4	5811.99	6562	7110.9
68267.2	69124.5	65879.9	71563.7	73370.8	76073.4	5597.55	6478.17	6939.1
68336.1	69161.8	65958.9	71428.7	73230.2	75919	5634.74	6432.18	6910.77
32363	35052.1	70959.8	41350.1	245463	40435.2	35277.3	34915.8	37245.8
40761.2	43577	50443.3	51035.7	229140	46859.2	28713.5	28489.5	31283.2
47394.8	50729.9	47396.1	56961.2	201197	52080	23745.1	23398.8	24202.3
52569.9	55487.2	50159.3	64223.4	170191	56604.9	19727.8	19716.4	20372.8
53864.8	56126.4	50503.2	64531.1	165369	58033.6	18775.9	18763.6	19481.6

59679.3	61964.2	56764	68815.4	128512	64843.3	13685.7	13920.3	14750.2
61759.4	63605.1	58627.9	71011.1	114947	67891.3	11852.4	11993.1	12812.1
63269.8	65012.6	60498.9	72376.2	103860	70888.4	10529.5	10732.7	11598.5
66853.3	68503	64028.2	75966.6	78363.4	76287.6	7471.47	8057.72	8696.45
67108.1	68479.4	64059.2	76111.7	77682.5	75902.2	7308.58	7923.93	8686.17
67267.8	68533.5	64093.9	76077.6	77265.7	75662	7130.42	7762.75	8516.39
67451.2	68597.2	64252.9	75665.7	76846.5	75329.9	6800.57	7470.22	8221.24
67592.7	68701.4	64407.6	75060.6	76558.7	75292.1	6642.76	7239.06	8078.61
67793.3	68894.6	64711.5	74499	75380.6	75619.1	6418.54	7036.95	7850.42
67949.5	69003.4	64884.7	74024.3	74722.3	75836.9	6196.9	6896.31	7760.07
68085.3	69077.9	65071	73600.8	74218.5	75930.6	6033.01	6805.18	7566.27
68322.6	69135.2	65467.2	72696.1	73886.7	75497.6	5753.74	6688.19	7245.52
68446.3	69258.5	65823.5	71895.4	73573.1	75169.7	5550.11	6539.62	6903.36
68524	69313.9	65899.9	71713	73564	74688.2	5510.28	6324.47	6751.89
68598	69370.6	66067	71587.1	73533.1	74063.6	5325.14	6257.84	6903.69
68698.6	69443.4	66238.8	71239	73506.1	73711.6	5318.54	6164.7	6760.82
68772.5	69508.2	66307.1	71091.6	73333.6	73428	5292.18	6019.58	6667.09
94874.2	60586.1	35288.2	44168.6	151468	40337.1	37343.9	28375.9	35291.4
94874.2	60586.1	35288.2	44168.6	151468	40337.1	37343.9	28557	36666.8
84873.4	62094.4	55147.8	65696.6	92637.3	64482.9	19997.2	16656.2	16879.8
67187.9	70892.8	63925.8	75142.8	77247	74619.6	8733.44	8731.33	9066.03
67624.1	70759.6	63741.8	75277.4	76501.8	74502.4	8351.7	8439.87	9022.74
67815.1	70715.5	63721.7	75288	76243.1	74251.9	8143.43	8191.23	9064.59
68026.6	70446.1	63795.3	75172.6	75891.6	74360.7	7851.83	8008.51	8810.59
68127.5	70192.2	63949.6	74953.3	75797.9	74301.9	7575.1	7636.45	8549.33
68109	69967.7	64053.8	75036.6	75666.3	74349.5	7301.43	7480.26	8383.63
68155.2	69815.3	64231.3	75035.1	75058.4	74547.7	6898.5	7355.72	8211.94
68190	69745.4	64393.3	74735.2	74791	74725.1	6662.59	7181	8055.21
68423.8	69734.6	64766.6	74007.6	74301.9	74736.1	6305.55	6873.73	7815.37
68540.1	69756.9	65077.8	73334.5	74111.8	74651.2	6031.73	6584.64	7597.41
68556.3	69659.6	65322.6	72880.7	74016.8	74650	5857.51	6640.49	7398.48
68681.6	69724.7	65578.8	72343.7	73997	74157.5	5644.32	6517.69	7184.22
68749.5	69776.9	65755	72034.8	73851.4	73876.1	5516.06	6428.86	7023.3
68859	69657.5	66090	71712.7	73579.4	73378.4	5343.48	6372.29	6962.52
68877.5	69584.3	66201.8	71503.9	73478.7	73239.9	5194.89	6194.64	6793.97
68982.9	69595.9	66475.8	71070	73410.8	72713.7	4961.05	6036.46	6628.15
68985.3	69598.8	66597.6	70964.8	73298.2	72349	5045.84	5906.25	6507.85
69001.3	69589.9	66661	70849	73271.6	72268.8	4981.77	5960.63	6477.48
68973.3	69600.9	66627.6	70828.9	73261.8	72203	5036.31	5924.94	6507.95
0	2351.65	0	49409.2	366886	85957.2	60000	60000	60000
0	2351.65	-5.59E-13	49409.2	366886	85957.2	60000	60000	60000
3314.63	5046.36	2899.24	47312.8	358598	85635.4	58054	57903.9	58097.5
4061.67	6099.59	4760.04	43627.8	358655	85017.8	57331.5	57076.3	57252.4
11395	12941.6	14538.4	20360.5	357025	80852.1	51808.4	51413.9	51390.8
13710.2	14524.6	16372	18175.4	353094	79498.2	50129.3	49967.6	49826.8
21817.7	22533.4	22125.1	22925.5	334829	62526.6	44175.6	43885.3	44171.3
33712.8	34619.7	32337.6	35351.1	294067	42861.1	35486.4	35277.6	35798.8

40877.7	41764.9	38726.6	45950.9	248849	48482.2	30137.6	30099.1	30797.4
44490.9	45357	42003.8	50066.5	226818	51611.9	27597.2	27418.5	28147.5
49241.5	50094	46442.1	59105	193255	55909	24083.6	24295.2	24634.7
55059.3	56101.8	52186.9	66224.1	155191	61403.8	19803.1	20059.5	20317.6
60329.8	61071.2	57010.2	71573.9	121994	67320.6	15987.7	16053.9	16660
63289.2	63920.1	59911.8	73416.3	103122	71412.9	13840.5	13880.7	14207.8
66972.5	67378.3	63209.4	76047.9	78792.5	76376.3	11039.3	10926.7	11496.1
67193.1	67636.7	63383.6	75272.5	78347.4	76349	10799.9	10693.7	11367.9
67690.5	68009.5	63740.9	74421.4	76660.9	76416.1	10364.9	10298.1	11106.5
68023.3	68405.3	64260.3	73075.6	75149.1	76814.3	9996.52	10037.1	10964.9
68153.9	68509.4	64405.1	72640.7	74532.1	77040.6	9877.74	9924.06	10892
68378.8	68646.7	64606.6	72321.1	74221.1	76388	9764.43	9792.39	10681.4
68488.7	68731.9	64772.6	71942	74165.2	76038.6	9731.02	9766.35	10666.3
68688	68915.2	65003.8	71696.2	74377.5	74682.1	9604.44	9577.82	10520.8
31152.3	34002.8	73593.7	42159.6	244654	40389.5	37895.3	37726.5	39468.7
38410.8	41482	53341.5	50720.2	233732	45470.1	32531.7	32184.3	26232.5
46772.7	50162.7	46816	58500	202144	51874.3	26708.3	26797.4	27063.8
51906.8	54319.3	48625.3	64701.3	174485	56318.8	23151.8	23106.6	24101
53573.1	55518.9	49416.6	65982.4	166417	57920.5	21933.2	22011	22763.2
58657.2	60612	54707.8	68448.7	136219	63436.5	18319.4	18336.6	18571.9
61395.2	62859.2	57069	72190.5	117843	67186.4	16087.6	16617.8	16600.5
62223.2	63618.4	58138.3	73207.1	111307	68850.5	15340.4	15554.8	15730
64454.2	65612	60398.2	75246.8	96109.7	72151	13539.9	13955.7	14123
67136.5	68228.5	62868.1	77221	78558.9	75029.2	11431.4	11711.6	11929
67228	68227.4	62937.4	77177.7	78186.1	74920.8	11369.1	11601	11865
67420.4	68214.9	63058.2	76968.5	77522.1	74787.6	11064.9	11256.6	11695.5
67584.4	68469.4	63237.9	75659.3	77396.1	75120.4	10937.3	10881.3	11563.3
67763	68459.3	63533.8	74846.5	76876.1	75458.6	10796.6	10612.6	11297.3
68065.5	68478.2	63851.3	74221.7	76062.2	75668.6	10535.9	10339.5	11166.6
68176.8	68462.1	64144.3	73773	75346.6	75844.6	10196.2	9977.3	10987.9
68503.6	68615	64518.2	72909.3	75010.4	74994.1	9957.18	9770.59	10778.8
68600.4	68837	64815.2	72421.8	74610.1	74602.9	9848.33	9687.89	10700.4
68843.4	69004.7	65069	71917	74481.5	73731	9628.14	9568.02	10510.4
68966.6	69055.3	65138	71936.4	74567.8	72909.4	9600.82	9413.66	10384.3
69055.7	69154.4	65278.2	71671.5	74535.2	72554.6	9412.65	9349.51	10325.5
69084.1	69130.2	65326.8	71623.7	74409.5	72492.6	9368.53	9305.73	10269.5
94874.2	60453.7	35288.2	44693.1	151067	40332	39526.2	30877.1	37742.4
94874.2	60445.3	35288.2	44726.6	151041	40325.8	39496.4	32069.6	37638.7
87299.9	59324.4	51594.2	64253.9	102276	60670.9	12872.6	21833.6	22287.4
67222.9	70366.8	62908.6	76791.4	77493.2	73787.5	12169.4	12610.3	12817.4
67467.4	70235.3	62743.8	77071.8	77037.2	73669.8	12025.4	12367.6	12622.5
67853.8	70206.3	62704	76641	76671.8	73584.9	11757.6	12184.2	12351.6
68053.3	70091.2	62666.9	76440.5	76577.8	73598.2	11622.3	12095.5	12338.8
68197.3	70096.6	62673.9	76172.4	76398.9	73690.2	11539.9	12042.7	12190.7
68389.7	69963.5	62734.2	75589.5	76483.6	73682.5	11312.5	11951.6	12028.5
68402.2	69903	62869.2	75026.9	76626.7	73915.9	11115.3	11887.9	11935.1
68436.4	69898.2	63119.1	74484.2	76363	74049.7	11015	11371.5	11727.4

68652	69714.3	63723.2	73552.9	75586.2	74310.4	10343.6	10614.9	11367.1
68840.3	69786.2	64177.6	72912	75172.8	73768.6	10144.9	10347.5	10951.4
68935.8	69749.2	64442.2	72572.9	74972.1	73599.5	10036.7	10158.5	10895.6
68963.8	69458.9	64640.7	72699.3	74969.6	73031.6	10006.1	9755.87	10712.5
69006.7	69232.9	64786.5	72666.4	74866.5	72992.1	9802.67	9574.54	10523.1
69097.3	69206.2	65155.2	72045.9	74587.2	72613.2	9660.63	9426.34	10496.1
69190.5	69158.6	65300.1	71737.1	74646.6	72246.9	9523.05	9285.21	10404.5
69213.4	69150.5	65416.2	71595.6	74380.9	72178.5	9439.18	9268.84	10269.2
69251	69149.6	65452.5	71567.5	74327.4	72039.9	9323.64	9256.54	10268.1
69285.7	69142	65492	71469.4	74324.7	71966.9	9344.24	9220.95	10251.1
69373	69145.3	65659.2	71333	74162.6	71470.2	9310.07	9174.15	10127.1

P1_Income	P2_Income	P3_Income	P4_Income	P5_Income	P6_Income	P1_Loss	P2_Loss	P3_Loss
0	2351.65	0	57599.3	358365	85857.2	60000	59130.3	60000
0	2351.65	0	57599.3	358365	85857.2	60000	59130.3	60000
0	2351.65	0	72842.2	342114	85617.4	60000	59129.1	60000
0	2351.65	0	75962.2	338788	85568.4	60000	59129.1	60000
0	4450.18	7.28E-15	77647.4	334450	85532.9	60000	57303.2	60000
0	4872.95	14628.4	80305.9	315918	83505.7	60000	56914.7	48230.3
0	3662.62	40966.3	81513	286811	81397.3	60000	58062.9	26257.2
0	2403.21	71023.7	80259.2	255359	79538.3	60000	59077.6	1198.54
0	4160.11	71997.6	81270.2	250664	79642.2	60000	57550	1109.78
0	6359.45	73134.6	82476	244799	79902.5	60000	55448.2	1010.53
0	10060.9	73487.2	83592.7	238195	80019.9	60000	52006.4	952.139
0	29733.4	74759.4	84812.4	208432	80875.3	60000	34876.8	831.554
0	58789.3	73016.8	85748.7	169529	82043.7	60000	10402.3	744.739
0	70492.7	72768.1	88146.7	150521	82899.5	60000	1034.2	656.835
0	71296.5	73320.4	88238.2	147583	84044	60000	927.998	598.74
-7.28E-14	71984	74133.2	88778.7	143980	85094.5	60000	839.25	527.691
17352.5	72902.8	73405.1	87736.3	116118	86937.9	45342.6	772.744	499.281
27274.5	72604.7	73018	86480.6	103298	86433.1	36879.6	825.289	499.88
32022	72547.6	72617.9	84433.3	98223.8	86920.1	32761.5	834.33	524.546
36203.9	72301.2	72310.4	82861.2	93583.2	86807.9	29154.7	855.009	544.481
39704.7	72264.6	72076.1	81144.8	90014.4	86471.1	26135.4	856.526	565.876
42534.5	72282.5	71831.2	80130.1	86748.9	85860.4	23665.2	851.251	593.158
7081.46	31481.9	88435.8	83401.9	221264	39694.1	54921.4	34005.8	70.8361
0	59324.8	79684.7	80654.8	207591	39825.3	60000	10643.2	329.262
3684.9	72364	76920.2	84646.9	182966	39853.4	57357.3	942.264	495.493
10465.3	73273.9	75933.2	86668.4	170259	39845.8	51864	854.211	448.529
13314.3	73000.9	74180	85177.9	169998	39884.1	49382.6	858.827	501.319
15673.3	72782.9	72968.7	85038.8	167250	40816.2	47367.6	875.608	564.306
22841.5	72934.7	71899.2	84231.6	145298	53500	41379.7	906.935	616.745
28435.6	73438.2	72171.1	84053.6	115539	74702.6	36709.9	889.588	617.807
31859.8	73666.8	72344.5	83820.5	109155	75592.9	33927.8	877.162	585.326
34130.3	73618.9	72277.9	83444.9	105411	76490.6	32051.4	900.316	583.559
35300.8	73377.7	72191.2	83477.7	103288	77202.3	30935.9	896.349	594.138
37458.7	72921.3	71848.6	83637.6	99498.6	78527.1	28935.4	909.148	626.652

38747.2	72728.9	71667.8	83579.7	97211.8	79318.9	27712	896.77	641.887
40423.5	72501.9	71524.9	83048.5	95094.9	79745.7	26109.7	903.556	649.827
41828.4	72338.6	71446.4	82414.9	93235	80054.1	24802.6	914.69	640.928
44118.2	72214.2	71360.4	81089.9	90610.4	80210.9	22843.2	923.182	637.504
47805.3	72152.8	71252.5	79300.9	85665.3	80491.1	19533.1	914.303	645.964
49844.1	72093.9	71173.1	78185.1	83064	80649.1	17702.4	918.708	653.734
51284	71964.4	70930.8	77100.8	81794.1	80700.3	16365.7	925.196	695.504
52122.2	71683.2	70864.7	76706.3	81247.3	80323.2	15557.3	941.735	710.847
52981.4	71553.2	70828.8	76298.7	80470.7	79947.2	14752.9	954.323	724.745
53435.5	71440	70852	75892.6	80164.3	79777.5	14324.9	959.383	723.79
94874.2	50888.3	59158	49858.7	128041	40045.8	43.2056	22879.4	10674.9
81167	68915.7	50772.1	62494.4	120964	40037.9	325.314	5755.18	17849.9
76234.9	75160.5	54795.3	76068.6	98237.5	40026.6	651.034	1144.76	13978.8
76093.7	76178.4	59770	76277	89709.7	39996.4	663.464	1007.17	9334.6
74923	76168.1	64206.7	76191.9	85686.4	40000.2	766.762	993.123	5308.78
73545.3	75180.3	68684.5	75679.4	83916.3	39971.2	884.139	1037.22	1368.02
73127.9	74797	69380.3	76160.3	83507.8	39977.8	891.62	1015.96	961.018
72739.8	74604.4	69768.5	76573.7	83316	40002.1	900.646	1000.53	895.36
72590.9	74520.1	69963.1	76710	83180.8	40001.1	904.681	987.703	863.126
72339.8	74442.8	70167.8	76957.9	83070.3	40009.1	918.992	971.547	830.221
72201.2	74389.5	70349.3	76876.8	83018.6	40183.5	928.714	960.044	802.546
71346.3	73353.2	70297.9	76274.3	81702.7	45607.5	1009.33	1030.61	803.136
70211.4	72442	69674.1	75277.9	80107.7	52675	1137.93	1093.05	869.145
69554.8	71523.7	69194.9	74467.2	78333.6	58660.4	1316.19	1176.14	925.898
63156.2	71231	69088.7	73989.9	77052.2	72963.8	6697.45	1140.89	927.815
61743.5	71169.5	69180.8	74004.1	76786.5	75512.4	7775.22	1126.02	914.37
61270.7	71100.8	69323.8	74017.4	76583.9	75814.8	8015.11	1096.12	894.317
60898.4	71052.9	69362.4	74136.3	76602.9	75557.2	8197.84	1061.46	890.362
60542.4	70890.1	69535	74138.7	76428.9	75752.4	8446.93	1068.48	867.491
60263.9	70952.7	69620.9	74140.9	76416	75722.6	8640.79	1040.48	856.417
60057.2	70949.6	69722.5	74153.8	76398.2	75672.4	8793.14	1036.51	854.362
60020.9	70857.8	69860.9	74082.4	76414.3	75548.4	8788.03	1044.08	843.371
0	2351.65	0	57599.3	358365	85857.2	60000	60000	60000
0	2351.65	0	57599.3	358365	85857.2	60000	60000	60000
0	2351.65	0	69139.5	346062	85675.7	60000	60000	60000
0	2351.65	0	80788	333637	85490.7	60000	60000	60000
0	2351.65	0	83319.5	330922	85446.1	60000	60000	60000
0	2351.65	1947.48	84761.6	327319	85193.9	60000	60000	58536.6
0	2351.65	20620.4	87186.5	303969	83866.5	60000	60000	44136.3
0	2351.65	54866.1	87619.9	263481	82936.3	60000	60000	17807.7
0	2351.65	74346.9	87436.4	239460	83656.7	60000	60000	2577.03
0	2351.65	77632.7	87869.3	234521	84204.8	60000	60000	497.149
0	6421.89	78452.5	88641.3	226729	84957.4	60000	56057.4	447.035
0	21047.1	79931.4	89335.1	204375	85642.4	60000	43558.9	388.957
0	40940.9	79580.1	90886.5	175055	87159.1	60000	27840.2	348.913
0	64540.5	77717.9	92239.4	142346	88747.2	60000	9234.39	330.469
0	75895.1	77349.5	91328.8	126384	90711.7	60000	473.957	297.324

1.82E-14	76818.8	77880	91869.1	123076	91479.7	60000	411.176	271.984
8.73E-14	78319.2	78609.4	92843.4	117843	92728.8	60000	315.51	226.029
5211	78355.6	78498.2	92212.7	110606	92615.5	55911.7	323.197	225.518
11909.6	78246.9	77907	89736.7	103243	93188.6	50637.1	338.232	242.056
14923.6	78342.8	77708.1	88026.7	100498	92986.7	48227.3	340.909	239.067
19491.5	78168.7	77041.4	86670	95844.4	92243.7	44578.2	356.434	261.946
21667.7	77997.1	77021.3	85762.3	93647.6	91832.7	42857.2	355.189	261.894
7081.46	26529.4	91880.9	85225.1	221819	39623.8	55444.9	39947.5	38.2375
0	52380.6	84047.6	88653.2	202917	39625.7	60000	19908.8	161.797
0	76750.4	80580.7	91733.7	170167	39681.9	60000	518.814	237.948
0	77574.8	79870.5	91469.2	170149	39700.2	60000	444.432	225.217
656.132	78130.9	78770.6	91201.9	169481	40162.6	59545.8	399.573	222.957
6149.72	77807.9	77857.2	91717	161417	40535.4	55486.4	408.173	240.578
11256	78670.5	77443.6	90436.3	146812	47748.4	51536.8	372.073	241.656
15178.2	79108.9	77059.8	90178.9	119358	70159.5	48549.3	348.519	282.156
14314.6	79090	77052.9	89399.1	110969	81387.9	49137.2	340.867	291.895
17313.9	78802.7	76594.2	89091.5	106842	82243.5	46812.2	353.391	298.485
18865.8	78747.6	76198.5	88998	104508	82905.8	45647	358.337	308.584
20382.1	78571.1	76001.1	88688.4	102456	83457.7	44375	362.322	311.487
21416.5	78214.1	76193.2	88406	100774	84093.9	43447.6	373.375	301.507
22312.2	78083.7	76069.2	88217	99172.6	84886.4	42715.4	378.261	305.097
23231.4	78025.6	75939.4	87761.3	97872.9	85493.7	41948.5	383.654	307.608
24741.8	77936.3	75899	87216.5	95078.7	86509.6	40653.3	384.6	306.488
27168.3	77785.5	75906.5	85270.1	92329.5	86957.5	38663.9	389.568	309.186
29482.6	77718.2	76049.8	83643.4	89660.7	86794.5	36654	390.484	309.691
31450.1	77730.9	76111.5	82483.7	87831.3	85961	35156.9	378.687	311.825
32655.6	77700.7	76286.6	81472.8	87295.8	84972.4	34193.4	377.246	312.691
33543	77619.1	76125.4	81178.8	86644.4	84505.8	33468.2	377.953	322.125
34285.3	77566.6	76084	80688.7	86000.5	84111	32839.4	381.426	324.701
94874.2	50759	62562.9	38950.2	136286	40153.5	43.2056	26854.9	11218.3
84638.3	65364.2	50791.5	61911.9	121032	39955.5	201.82	13927.6	20968.4
80252.1	72058.6	49121.1	74295.6	105905	39941	370.183	8128.05	21855.3
78715.8	75807.8	52538	75824.9	96098.3	39930.7	461.299	4959.98	18657.6
77934.2	76960.1	54414.7	76490.2	93182.9	38771.3	504.306	3792.31	16941.2
77054.6	77814.6	57448.9	75121.6	91323.6	37980.8	534.015	2543.36	14329.4
74749.8	80622.9	59138.4	74132.3	89807.4	37895.7	2134.97	469.529	12864.6
72399.2	80069.2	61261.3	76743	89332.9	37147.7	3871.81	474.217	11011.6
70460.7	79430.2	60912.2	81683.5	88722.1	36359.3	5257.21	483.126	11068.7
68481.2	78936.9	64644.2	81521.4	87927	36164.1	6566.08	481.772	7844.89
66338.6	78137.7	69117.9	81333.8	87076.9	35762.7	8223.26	510.663	4062.68
63470.1	78062.4	73724.1	81077.7	86026.6	35569.6	10391.2	491.884	398.652
62350.5	78020.3	73949.8	80927.2	85300	37930.2	11018.3	470.503	384.631
60637.9	77885	74147.9	80689.3	85135	41349.4	12306.2	454.12	371.785
55583.8	77716	73946.9	80141.6	84436.5	52519.2	16310.2	443.214	392.994
48901.8	77522.2	74110	79985.1	83720.1	65518.1	21424	431.735	391.796
40870.5	77123.9	74501.7	79671.9	82875	80802.4	27803.6	433.422	397.442
40811.6	77084.9	74671.3	79287.8	82885.9	80632.1	27793.6	424.487	397.021

40332.8	77109.9	74892	79419.4	82896	80493.1	28134.3	420.395	379.229
40229.6	77019.4	75059	79328.1	83065.7	80135.8	28186.4	423.742	370.913
39958.1	77129.1	75238	79273.3	83004.4	80043.8	28341.9	415.064	364.759
39905.5	77039.6	75210.7	79391.8	82785.4	80170.7	28372.3	414.785	363.53
0	2351.65	7.28E-15	57599.3	358365	85857.2	60000	60000	60000
0	2351.65	0	57599.3	358365	85857.2	60000	60000	60000
0	2351.65	0	64525.5	350981	85748.3	60000	60000	60000
0	2351.65	0	86087.6	327953	85397.3	60000	60000	60000
0	2351.65	0	87689	326235	85369.1	60000	60000	60000
0	2351.65	0	89654.9	324126	85334.4	60000	60000	60000
0	2351.65	831.435	90459.3	321253	86446.9	60000	60000	59397.5
0	2351.65	29278.3	93654.2	283146	87508.7	60000	60000	38564.8
0	2351.65	55189.2	93675.3	250955	88718	60000	60000	20222.9
0	2351.65	82394.3	92536.3	219297	88968.9	60000	60000	235.956
0	2351.65	83013.8	93695.9	216372	89843.9	60000	60000	210.989
0	13516	84126.3	95096.2	198650	90079.3	60000	50407.4	182.048
0	31694	84475.3	97158.9	171238	90701.1	60000	36291.4	177.857
7.64E-14	46827.3	82953.8	97265.5	149748	93753.1	60000	25222.1	143.099
-1.09E-14	67441.6	82087.9	95738.4	123200	94840.8	60000	10123.7	126.065
0	73768.4	81781.7	95329.2	115477	94654.2	60000	5492.42	118.277
-1.46E-14	79398.3	81080.3	93503.2	110110	95249.9	60000	1458.49	125.779
2.18E-14	81448.9	81492.1	92949.8	106919	95616.4	60000	184.019	112.404
6.55E-14	81889.6	81625.8	92790.1	105868	95974.1	60000	169.704	105.823
4.00E-14	82533.8	81799.8	92361.1	104889	96053	60000	149.055	97.0663
268.726	83057	81979.3	92006.9	102991	96485.4	59804.2	129.201	89.3366
2001.35	82936	81821.1	91167.4	101599	96130.3	58531.9	131.824	94.39
7081.46	23357.5	97094.7	82472.4	222840	39593	55877	43275.7	15.6353
0	54106.6	87856.7	81112.6	204257	39698.6	60000	21087.2	71.7292
0	68484.1	84410.6	97528.1	170473	39518.8	60000	10670.6	112.011
0	70764.1	83110.6	96117.6	169787	40152.4	60000	8770.31	102.061
0	80372.1	81947.6	95486.1	158721	39705.7	60000	1638.94	113.516
1.96E-13	83161.3	82586.6	95781.5	153461	39744.3	60000	175.3	91.1379
1271.95	84198.3	82546.9	95840.4	144819	44613.1	59141.2	139.056	90.7962
4038.06	83894.2	82533.3	96933.5	125688	59176.1	57236.6	139.855	91.9866
2662.04	83656.9	82190	95521.4	115641	74471.2	58168.1	144.059	114.116
-2.18E-14	83289.6	81987.1	94654.4	110572	86095.1	60000	151.331	135.289
88.2283	83283.7	82138.2	94768.4	108299	88139.8	59938.8	150.461	122.907
1245.32	83162	82050.3	94319.7	106447	89093.3	59135.2	151.748	118.48
2793.68	83045.5	81799.1	93499.4	104638	90011.7	58033.5	152.048	118.27
3517.68	82916.7	81735.2	93264.7	103267	90769.5	57496.6	156.003	113.873
4202.83	82953	81598.4	92915.5	101893	91644.1	57009.8	155.134	115.235
5352.47	82878.1	81293.6	91799.5	101034	92402.2	56166.2	156.091	121.02
9304.49	82551.7	81199.8	89272.9	97285.8	92660.9	53293.7	157.566	125.904
11026.8	82733.6	80695.6	88263.3	96387.2	91696.7	51998.2	150.876	137.882
13191.8	82490.6	80779.5	86558	94789.5	91346	50430.1	151.094	131.047
13975.3	82566.2	80769.3	85936.1	94429.5	90668.8	49839.4	148.302	129.737
14800.7	82289.3	80614.4	85783.5	93685.8	90471.2	49222.6	151.391	128.407

15575.7	82058.7	80458.2	85392.8	93704.5	89932.8	48657.5	157.132	125.537
94874.2	51646.4	62578.8	35517.9	138853	40186.2	43.2056	28446.9	13932.6
89622.9	59672.5	52041.5	60376.4	121102	39955.5	102.237	21565.2	22380.5
84418.7	67673.8	50265.7	67989.9	111197	39970.6	201.529	14942.8	23213.9
83689.8	69816	53725	68835.6	103250	39967.9	218.792	13190.9	20321.1
81473.8	72756.6	56369.7	68894.8	99755.5	38751.3	1661.71	10765.2	17915.3
76591.4	77949.8	58974.2	68372.2	97716.2	38210.8	5180.44	6683.91	15505.7
71991.3	83494.2	60601.8	67057.7	97002.8	37603.8	8636.1	2490.52	14074.8
71712.1	82518.1	60431.1	69882.8	96211.7	36879	8746.73	2975.99	13857.3
68870	84286.8	56513.7	76410.6	95768.6	36802.3	10650.6	1380.45	16727.4
66144.7	84515.6	56056.9	81397.3	94833.5	36592.8	12795.1	641.53	17068.9
65338.8	84493.9	54675	85225.3	93044.1	36629.3	13236.3	196.168	17954.9
60100.1	83696.2	62887.8	84920.6	92449.3	36121.8	16910.4	203.286	11577.5
54711.3	82933.8	70686	84929.6	91967	36011.7	20487.1	204.329	5654.15
48115.3	82399.8	78887.7	84855	91287.1	37585.2	25236.7	192.03	139.711
46010.8	82224.5	78800.9	84870.4	91064	41855.5	26588.5	193.122	141.042
42726.2	82097.5	78831.8	84753.9	90852.4	48199.4	28975.9	192.866	146.407
26795.4	81610.3	78922.3	84142.9	89854.2	78893.2	40578.3	187.979	190.189
23020.6	81717.9	79271.1	83924	89713.2	85148	43273.1	180.185	182.372
22541.9	81603.2	79274	84043.5	90013.4	85370.5	43626.9	180.069	170.315
22914.5	81414.7	79118.3	84009.6	89566.2	85372.7	43340.8	185.336	174.587
22563.1	81562.7	79517.2	83889	89092.9	85334.2	43566.1	177.946	167.143
22305.5	81520.8	79640.1	84007.1	88851.5	85407	43757.3	176.157	163.533

P4_Loss	P5_Loss	P6_Loss	Total_Inco	Total_Loss	d_neg_sun	Solving Time	RP_Objecti
33330.8	0	60000	504604	273331	5486722	11652	536179
36313.3	0	60000	504604	276313	5486722	18920	533179
57372.3	57372.3	57372.3	502481	342759	5073730	25736	527286
46305.6	55786.6	55786.6	501277	323444	4979893	20884	521588
48124.3	49789.3	49789.3	495830	293635	4515051	28130	516407
44939.5	46581.1	46581.1	491559	273847	4223019	22638	511517
31165.4	33919.7	29896.7	472716	190063	3237096	28710	507398
23252.3	27242.4	23280.8	462934	147023	2663349	26084	504311
20295.9	24633.1	20650.3	458827	130481	2446783	22560	501704
16251.2	21351.3	17132.1	453192	108880	2190983	22270	499451
13339.7	19144.2	14769.7	449268	94091.2	1989391	34426	497383
7457.5	13515.5	8299.7	440140	58147.1	1529445	40724	494128
4555.42	6748.69	4638.3	435312	35155.2	1321999	36276	491736
1543.55	1533.99	1533.99	428808	14456.5	1087296	52112	489977
1504.82	1642.26	1504.82	428480	13989.5	1093025	49618	488457
1533.72	1471.96	1471.96	428074	13257.4	1083732	50658	486969
1432.44	1432.44	1432.44	427520	12364.1	1082226	36907	483342
1390.29	1382.08	1382.08	426625	11391.3	1078117	41436	479834
1394.38	1443.84	1352.92	426019	10983.3	1075304	35164	476419
1397.56	1418.3	1340.71	425733	10789.9	1078146	34022	473053
1354.07	1374.13	1326.12	425345	10495	1080664	33080	469720
1476.79	1418.38	1317.39	425069	10549.9	1084475	29022	466415
30301.3	34307.2	30515.4	465040	180632	2916672	33550	426370
22675.6	27625.1	23713.1	460418	144687	2610948	20935	424711
18784.4	23809.8	19599.6	455248	123387	2335772	25834	422205
14312.5	19940.4	15499	448788	98606.4	2013509	23400	420047
12173.2	17656.4	13216.4	445612	84746.7	1799383	40702	418129
7709.53	13866	8623.94	440154	59721.9	1503582	36034	416612
5411.84	9624.43	5691.74	436398	42516.9	1354855	24195	415371
3962.5	6493.9	3856.19	433336	31210.1	1223409	40871	414291
1913.84	1903.14	1728.82	429155	16433.3	1088558	58263	413417
1840.34	1947.75	1659.82	428861	15870.1	1078968	49670	412614
1566.53	2045.18	1559.95	428603	15111.8	1076302	44538	411827
1530.83	1926.33	1530.83	428349	14536.2	1068779	48515	410285
1575.56	1843.84	1504.24	428119	13918.8	1077555	37986	408765
1595.51	1513.36	1473.15	427762	13146	1079861	41107	407276
1536.08	1433.56	1433.56	427194	12428	1086691	40716	405823
1427.08	1404.46	1404.46	426767	11849.1	1083752	228044	404405
1495.48	1502.75	1362.87	426053	11220	1082002	39452	400958
1439.94	1431.07	1342.12	425593	10807.1	1079804	33182	397578
1485.34	1343.67	1318.36	425094	10412.2	1084457	31950	394254
1566.23	1309.2	1295.02	424489	10003.7	1081642	34414	390984
1651.43	1271.31	1271.31	423785	9825.28	1077013	32370	387778
1560.28	1282.32	1257.05	423364	9433.71	1072595	34398	384615
29969	34429.8	30638	426822	188048	721141	21952	357408
29969	34429.8	30638	426822	186886	721141	19937	355686

4618.11	4491.33	4471.38	425384	35948.4	887209	33509	353565
2777.66	2752.35	2458.81	428520	20809.5	1037828	26489	352612
2476.46	2862.19	2273.27	428251	19892.5	1062710	40622	351739
2299.74	2727.67	2295.16	428013	19262.6	1063907	32135	350885
1889.71	2518.19	2020.28	427997	17421.5	1071532	35120	350054
1870.91	2446.43	1890.4	427984	16695.2	1072127	46618	349244
1765.29	2228.17	1715.53	427942	15897.9	1072170	48859	348451
1752.33	2093.87	1590.73	427812	15251.2	1080350	47283	347669
1774.55	1791.61	1521.74	427466	14457.7	1078313	45729	346900
1816.69	1707.01	1467.87	426870	13279.2	1071306	46533	345406
1816.98	1666.1	1431.87	426394	12627	1079474	34969	343958
1683.62	1703.81	1406.97	426074	12101.7	1077322	33565	342540
1619.68	1661.32	1386.61	425783	11636.5	1072542	37057	341143
1612.63	1559.33	1365.82	425526	11298.6	1078329	35110	339767
1563.04	1325.45	1315.5	424587	10184.7	1078790	32557	336417
1632.43	1289.71	1281.66	423906	9916.6	1076259	34670	333176
1595.26	1258.6	1258.6	423354	9608.95	1077802	31724	330003
1632.8	1244.19	1244.19	422877	9410.14	1076301	27024	326874
1609.07	1238.67	1238.67	422705	9249.76	1081055	31946	323771
1576.44	1231.85	1231.85	422449	9118.77	1084438	33558	320685
39085.3	0	60000	504604	279085	5486722	10600	536179
40212.3	0	60000	504604	280212	5486722	13772	533179
57889.5	57889.5	57889.5	502664	346395	5101396	18742	527229
56898.6	56898.6	56898.6	501890	340151	5033010	20616	521478
49837	50997.8	50997.8	496337	301948	4583961	29496	516094
47919.2	49355.5	49355.5	494205	291583	4406058	31408	511035
39751.6	41421.1	32889.8	482078	233905	3743540	20582	506468
31002.7	33834.8	30620.2	469943	190519	3085192	33054	502811
25024.6	28838.2	25331.1	461819	157793	2583746	27526	499743
21701	25824.3	22047.4	456469	138661	2345113	21874	496984
19659.4	24220.5	20378.6	453417	128116	2219218	24734	494519
13931.9	18768.9	14515.9	443542	93326.3	1711254	30322	490155
10330.3	15516.7	11314.5	437524	72841.5	1451494	30658	486800
6046.34	6328.18	6385.2	429840	42370.9	1147162	27076	483957
5979.02	6382.96	6246.22	428901	41287	1121473	129717	481633
6185.39	6132.73	5988.49	428307	40394	1111745	31258	479354
5858.25	5907.74	5528.82	427002	38358	1116698	27766	473804
6092.04	5822.66	5356.23	426140	37721.1	1122732	26906	468433
5893.26	5717.27	5225.81	425361	36825.4	1110727	24700	463163
6118.34	5620.2	4998.71	424758	36222.1	1102027	24364	457968
5962.61	5499.79	5261.93	424279	35739.2	1102499	265147	452835
5967.49	5437.35	5215.87	424035	35598.4	1107334	23664	447746
33526.6	37245.8	34120.3	465623	212332	2960386	20312	426261
27018.7	31297.4	28021.3	461817	174824	2740006	21388	424438
22099.2	26792.8	23347.6	455759	143586	2388648	22666	421631
17962	23146	19553.1	449235	120478	2068224	33228	419131
17306.7	22229.7	18372.9	448428	114930	1967101	36672	416858

12590.1	17729.8	13480.3	440578	86156.4	1554079	35989	414891
10848.2	16000.5	11773.2	437842	75279.4	1444939	27175	413216
9340.85	14798.1	9933.3	435905	66932.9	1354715	30281	411681
6233.97	6924.78	6652.97	430002	44037.4	1128385	50435	410307
6050.88	6706.97	6580.01	429343	43256.5	1113559	40529	409111
5963.02	6579.21	6575.23	428900	42527	1108276	38828	407931
5760.54	6361.53	6463.12	428143	41077.2	1110353	33072	405610
6124.53	6192.29	6242.28	427613	40519.5	1105293	33165	403327
5980.78	6047.94	5936.03	426898	39270.6	1106249	32495	401088
6027.7	5965.58	5712.97	426421	38559.5	1104761	31060	398894
5983.16	6007.27	5576.32	425984	37971.2	1106872	32791	396731
5929.86	5635.9	5434.74	425005	36688	1100925	30139	391423
5895.79	5476.95	5378.26	424166	35744.1	1099078	27035	386249
5814.31	5295.7	5403.28	423703	35099.9	1090310	27838	381165
5750.15	5198.31	5355.21	423219	34790.3	1090627	25665	376123
5863.44	5125.04	5250.06	422838	34482.6	1084313	21597	371121
5745.42	5025.35	5122.88	422441	33872.5	1092558	22582	366165
33457.8	37343.9	34218.4	426722	206031	719419	36208	357260
33457.8	37343.9	34218.4	426722	207588	719419	19263	355393
14802.3	12512.6	15407.4	424932	96255.6	763614	30140	352719
7135.74	7624.94	7539.88	429016	48831.4	1054838	31818	351306
6706.97	7269.74	7336.06	428407	47127.1	1060914	49062	350046
6555.99	7298.18	7188.34	428035	46441.8	1073779	45444	348808
6361.54	6984.42	6937.51	427693	44954.4	1072614	27893	347590
6182.92	6792.04	6640.85	427322	43376.7	1071438	43742	346398
6099.25	6617.8	6497.28	427183	42379.7	1082141	40451	345224
5916.05	6464.4	6347.42	426843	41194	1088500	41154	344064
5919.08	6341.48	6234.93	426580	40394.3	1081796	129386	342926
6040.68	6168.25	6009	425971	39212.6	1087689	38626	340695
5893.64	6045.09	5885.9	425472	38038.4	1089024	33026	338514
5931.88	5775.94	5807.08	425086	37411.4	1086739	110510	336376
5959.54	5553.41	5750.73	424483	36609.9	1082848	25210	334274
5922.67	5333.55	5688.48	424044	35912.9	1083889	26785	332202
5792.58	5167.69	5545.85	423277	35184.4	1077231	22885	327093
5748.36	5131.7	5426.73	422886	34490.3	1078760	24477	322057
5736.9	5015.92	5326.78	422249	33705.3	1085327	24679	317082
5738.35	5075.1	5286.31	421794	33559.7	1091571	23806	312149
5747.47	5053.9	5353.15	421642	33574.4	1095397	21419	307239
5712.12	5016.23	5311.18	421496	33508.7	1097764	24227	302343
40212.3	0	60000	504604	280212	5486722	12478	536179
40212.3	0	60000	504604	280212	5486722	13718	533179
58249.5	2912.48	58249.5	502807	293467	5124109	24496	527192
43128.5	2878.13	57562.5	502222	275229	5059080	21272	521402
50241.2	2616.83	52336.7	497112	259808	4647155	25285	515854
49821.8	2542.24	50844.8	495374	253132	4502974	25986	510704
44247.2	2263.33	45266.5	486758	224009	3977968	28244	505870
35290.5	1858	34540.3	472950	178252	3265000	38492	501753

29092.7	1612.17	29353.5	464652	151093	2752206	32566	498265
26373	1490.44	26847.3	460348	137874	2499906	23992	495210
22947.4	1331.93	23400.8	454046	120694	2239608	30078	492381
18936	1128.34	19347.4	446167	99592	1835167	22530	487315
14784.2	4694.23	15322.3	439299	83502.3	1524419	25338	483126
12442	9289.57	13052.3	435073	76712.8	1333188	25390	479462
9411.96	10127.6	10339.3	428777	63341	1140124	32674	476464
9649.65	9634.94	10120.1	428182	62266.2	1131844	30722	473615
9246.28	9949.55	9796.05	426939	60761.3	1139176	27127	466631
8865.64	9233.48	9562.81	425728	58660.4	1135239	24444	459837
8745.71	8935.8	9441.34	425282	57816.7	1134899	87102	453151
8745.42	8607.16	9394.48	424562	56985.3	1130965	23226	446527
8752.23	8417.08	9346.39	424139	56679.4	1115787	23480	439970
8727.43	8337.27	9047.03	423363	55814.8	1114470	21700	433462
36030.5	1973.43	36845	465951	189939	2991285	18015	426177
30776.7	1736.65	32083.3	463157	155545	2834694	36949	424227
25273.3	29288.5	26566.1	456269	161697	2419974	17690	421173
21503.1	1292.16	23005.3	450357	116160	2110594	27284	418409
20325.5	1236	21795.7	448828	110065	1973969	26270	415884
16984.5	1053.43	17836.2	442081	91102.1	1637053	25881	413600
14543.5	6660.62	15468	438544	85978	1475797	22106	411605
13511.8	9472.39	14488.7	437344	84098.1	1426625	25163	409737
11898	10031.1	12944.4	433972	76492.1	1265166	27034	407964
9813.92	10325.5	10935.8	429042	66147.2	1136227	41544	406426
9622.15	10180.1	10772.6	428677	65410	1131872	33867	404950
9366.62	10128.8	10571.2	427972	64083.5	1126830	27721	402041
9498.37	10079.3	10395.7	427467	63355.4	1125592	28782	399182
9523.7	9751.65	10169.5	426937	62151.4	1130819	24414	396372
9154.62	9674.87	10055.7	426347	60927.2	1126574	23472	393601
8943.09	9229.17	9774.65	425747	59108.3	1121431	30388	390872
8686.88	8919.65	9400.08	424551	57513.2	1126076	23587	384179
8591.07	8561.69	9236.46	423887	56625.8	1123305	23073	377595
8689.17	8231.52	9075.74	423047	55703	1117137	31793	371111
8644.7	8079.17	9061.9	422574	55184.6	1107483	23010	364680
8679.51	7964.81	8950.73	422250	54682.7	1093995	24914	358299
8675.39	7896.5	8956.78	422067	54472.4	1087831	20498	351940
36161.3	1976.31	36902.5	426708	183186	720907	29702	357150
36136.6	1974.82	36883.3	426701	184199	720907	34991	355174
19954.7	14752.4	21221.9	425419	112923	760544	28673	352142
10596	11201.9	11766.9	428570	71161.9	1089978	48282	350331
10281.5	11049.6	11453.8	428225	69800.3	1102426	35147	348786
10228.9	10624.7	11219.4	427662	68366.4	1097347	37721	347263
10002	10532.3	11135.1	427428	67726	1094786	34398	345757
9980.65	10576.2	11067.6	427229	67397.7	1096148	44918	344264
9830.51	10388.9	11053.4	426843	66565.4	1099439	30919	342785
9852.83	10264.7	10873.1	426744	65929	1097647	29596	341328
9716.68	9834.5	10618.9	426351	64284	1088171	70434	339888

9206.85	9489.54	10290.4	425539	61312.4	1093854	29390	337082
9002.6	9199.55	9712.52	424658	59358.5	1090195	24897	334337
8964.99	9127.78	9372.21	424272	58555.7	1082988	25116	331638
8903.18	8888.91	9498.89	423764	57765.5	1102859	24055	328974
8807.88	8641.3	9373.76	423551	56723.3	1112841	26676	326341
8617.84	8138.13	9244.74	422705	55583.8	1103522	23400	319845
8589.52	8018.43	8904.73	422280	54725.5	1092788	22308	313436
8646.85	7936.47	9057.15	421935	54617.6	1094262	47924	307073
8606.66	7940.08	9010.29	421788	54405.3	1097598	24336	300729
8619.09	7961.71	9090.72	421681	54487.8	1094209	20585	294397
8451.36	7888.08	8916.23	421143	53867	1093734	22966	288081

P4_Loss	P5_Loss	P6_Loss	Total_Inco	Total_Loss	d_neg_sun	Solving Time	RP_Objecti
14915.5	0	194.689	504173	194240	5477329	12028	537506
14915.5	0	194.689	504173	194240	5477329	9953	535840
1227.18	0	206.07	502926	180562	5475087	12043	532568
848.595	0	208.517	502670	180186	5474628	10905	529467
773.232	0	210.307	502080	178287	5390059	14571	526406
749.106	0	311.323	499231	166205	5204653	10632	523430
755.839	0	446.882	494350	145523	4969686	9064	520680
774.029	0	593.303	488583	121643	4733850	12309	518336
678.039	0	579.646	487734	119917	4664266	9609	516148
598.445	0	560.327	486672	117617	4590724	8923	514005
542.41	0	541.463	485356	114042	4515108	9142	511919
445.3	0	460.388	478613	96614	4092385	9173	508076
523.011	0	400.328	469128	72070.4	3543633	9906	504993
475.733	0	384.919	464828	62551.7	3284800	9741	502494
453.866	0	327.338	464482	62307.9	3274518	10358	500087
403.313	0	276.736	463971	62047	3255926	8721	497724
394.664	11.2298	272.181	454452	47292.7	2599276	9298	492267
464.775	84.2743	325.253	449109	39079.1	2254419	9110	487881
526.72	139.267	346.777	446765	35133.2	2099942	9110	483857
540.34	187.925	379.103	444068	31661.6	1955776	9609	480056
551.359	237.849	421.299	441676	28768.3	1848444	9703	476470
559.358	300.375	443.911	439388	26413.3	1774788	9512	473044
1479.65	0	31262.7	471359	121740	3645619	10467	427315
1639.91	0	31131.5	467080	103744	3469430	11934	426249
811.835	0	31103.3	460435	90710.2	3148911	9772	424437
728.403	0	31111	456446	85006.1	2876547	9453	422767
824.665	0	31072.7	455555	82640	2795714	9516	421153
778.699	0	30123.7	454530	79710	2726754	8721	419562
662.518	0	18944.7	450705	62510.5	2459489	9874	418109
644.055	15.6537	1283.9	448341	40160.9	2248621	10406	417053
672.133	48.8801	1200.63	446439	37311.9	2110722	9391	416148
698.64	76.2092	1123.76	445373	35433.8	2021985	9688	415281
704.328	99.2263	1057.05	444838	34287	1986192	9220	414438
711.984	147.797	954.307	443892	32285.3	1923166	9532	412809

726.296	190.546	893.579	443254	31061.1	1888600	9366	411226
763.139	245.076	861.725	442339	29533.1	1840542	9438	409677
768.795	272.336	821.248	441317	28220.6	1806811	8986	408165
785.012	304.119	799.054	439604	26292.1	1743935	9360	406697
765.451	396.097	801.074	436668	23056	1621261	9937	403229
779.798	458.607	800.897	435009	21314.1	1561062	9500	399911
763.868	484.748	767.71	433774	20002.8	1527007	10233	396689
741.667	508.478	737.834	432947	19197.8	1505980	9984	393546
724.241	534.812	714.134	432080	18405.1	1490630	10156	390459
715.179	539.381	691.688	431562	17954.3	1481648	9828	387416
22545.5	0.956505	30910.9	422866	87054.9	656107	9045	358209
12220.1	5.77182	30918.8	424351	67075.1	818341	11071	357441
1507.54	206.81	30930.1	420523	48419	770654	12749	356159
1470.7	463.066	30960.3	418025	43899.3	749506	11068	355034
1475.38	617.594	30956.6	417176	40118.2	770129	11108	353958
1454.43	701.167	30985.5	416977	36430.5	806636	15218	352922
1309.75	696.795	30979	416951	35854.1	824593	12458	351924
1224.46	694.741	30954.6	417004	35670.4	833459	12128	350946
1172.61	690.763	30955.6	416966	35574.5	839155	10990	349978
1123.89	692.169	30947.7	416988	35484.5	845379	11690	349017
1117.37	692.109	30766.5	417019	35267.3	850057	11435	348061
1149.65	743.1	26106.1	418582	30841.9	893877	11441	346206
1158.09	770.625	20197.2	420388	25226	936360	12232	344477
1168.15	842.304	15220.2	421735	20648.9	978062	14868	342871
1157.43	882.457	3229.1	427482	14035.1	1193557	12139	341416
1131.67	865.071	1475.53	428397	13287.9	1238251	10874	340080
1048.55	853.622	1307.08	428111	13214.8	1255924	10609	336835
978.145	828.225	1156.65	427610	13112.7	1275596	10999	333693
921.727	820.532	1016.89	427287	13142	1297557	10687	330649
902.964	806.605	988.867	427117	13236.1	1306913	10624	327654
864.55	801.157	943.204	426954	13292.9	1312851	10048	324693
854.431	791.836	924.872	426785	13246.6	1312252	10776	321751
18508	0	194.689	504173	198703	5477329	10857	537471
18508	0	194.689	504173	198703	5477329	10000	535770
8356.9	0	203.253	503229	188560	5475632	10842	532405
481.077	0	212.459	502267	180694	5473311	10421	529262
342.144	0	214.749	502039	180557	5471304	11983	526160
289.412	0	226.292	501573	179052	5446927	16541	523072
327.572	0	294.123	497994	164758	5205267	12544	520095
338.314	0	356.877	491255	138503	4871202	9008	517402
333.919	0	316.739	487252	123228	4675991	12284	515025
309.077	0	280.295	486580	121087	4650485	9240	512832
282.187	0	233.149	485202	117020	4548295	9530	510673
253.325	0	198.184	480331	104399	4214887	10027	506670
235.259	0	153.364	473622	88577.7	3832459	10421	503185
255.013	0	152.295	465591	69972.2	3349928	10520	500164
255.279	0.857323	135.798	461669	61163.2	3109446	10884	497695

229.576	2.21864	117.713	461124	61032.7	3083024	10180	495328
196.017	9.03146	97.3702	460344	60844	3032044	9890	489551
199.328	29.9057	107.691	457499	56797.3	2833803	10360	483975
228.608	64.4265	118.467	454232	51628.9	2612521	9330	478728
247.803	79.4882	135.936	452486	49270.5	2528939	10017	473692
249.016	112.711	154.541	449460	45712.9	2396386	10609	468835
254.888	129.565	168.2	447929	44027	2337670	10442	464134
4790.24	0	34882	472160	135103	3691430	13822	427226
716.861	0	34880.1	467624	115667	3579837	15381	426040
465.448	0	34823.9	458914	96046.1	3157262	12183	424071
476.202	0	34805.6	458764	95951.4	3139720	11185	422241
429.421	0	34410.8	458403	95008.6	3108209	12173	420429
365.878	0	34089.2	455484	90590.2	2927765	9816	418662
318.428	0	27446.4	452367	79915.4	2704159	9802	417017
322.76	7.25733	9288.8	451043	58798.8	2564209	10328	415619
347.513	32.9756	531.828	452213	50682.2	2588623	12761	414492
358.979	59.3983	493.96	450888	48376.4	2473816	10327	413419
366.561	79.649	466.554	450224	47226.7	2418421	10686	412368
380.356	101.339	445.399	449556	45975.9	2352220	10296	410295
383.491	124.279	416.126	449098	45046.3	2310155	10658	408256
379.752	139.56	397.387	448741	44315.5	2280303	10499	406242
377.455	145.557	380.481	448324	43543.3	2259474	9703	404246
354.504	167.331	358.078	447382	42224.3	2213435	9999	402286
350.037	178.135	334.23	445417	40225.1	2146703	10281	397550
341.995	213.958	317.742	443349	38227.8	2075867	10484	392948
346.121	242.799	312.245	441568	36748.6	2017491	10234	388471
355.065	244.419	315.247	440384	35798.1	1976902	10639	384083
350.799	260.987	312.521	439616	35092.6	1963603	10670	379747
347.551	265.427	304.219	438736	34462.8	1958165	10187	375452
34027.1	0	34352.3	423586	106496	642639	9516	358108
17465.4	5.63623	34550.3	423693	87119.2	777851	11077	357202
7569.6	86.5445	34564.8	421573	72574.4	740550	12199	355588
6085	238.018	34575	418916	64977	720626	12028	354104
5400.72	289.992	35013	417753	61941.5	723606	12340	352670
6123.32	318.089	35335.8	416744	59184.1	719973	14649	351273
6591.64	350.495	35293.7	416346	57705	738545	12714	349908
4520.29	364.636	35695.9	416953	55938.4	805576	13494	348563
607.665	382.145	35976.5	417568	53775.3	866527	14508	347253
591.546	384.301	36084.9	417675	51953.5	908675	13292	345975
586.504	380.157	36218.3	417768	49981.6	959997	12839	344726
573.532	396.355	36165.5	417931	48417.1	1020387	16365	342285
532.311	395.713	34492.2	418478	47293.6	1055013	13322	339898
524.276	389.05	31841.3	419844	45886.7	1109384	12574	337575
498.374	378.938	23291.7	424344	41315.4	1265174	11916	335351
488.669	395	12830.1	429757	35961.3	1481589	11330	333300
464.881	397.431	516.334	435845	30013.1	1752092	12981	328804
443.859	385.522	485.088	435374	29929.6	1756224	11754	324460

418.631	378.073	444.178	435143	30174.8	1778931	11139	320175
405.828	364.09	433.921	434838	30184.8	1788992	11313	315931
397.681	365.331	409.677	434647	30294.4	1802111	11900	311714
387.723	370.141	389.044	434504	30297.6	1796160	11092	307518
21632.9	0	194.689	504173	201828	5477329	18143	537434
21632.9	0	194.689	504173	201828	5477329	15070	535696
15443.3	0	199.805	503606	195643	5476310	15367	532239
237.33	0	389.898	501789	180627	5469110	20233	528992
193.767	0	418.116	501645	180612	5467840	14570	525848
150.736	0	452.757	501467	180603	5466281	14976	522719
138.086	0	179.59	501342	179715	5455392	15335	519607
166.205	0	151.593	495939	158883	5096756	11263	516670
162.574	0	124.408	490890	140510	4856474	9782	514047
172.822	0	106	485548	120515	4613932	12698	511745
151.5	0	84.3385	485278	120447	4599193	10561	509588
135.555	0	79.4944	481468	110805	4335477	10390	505407
106.225	0	73.7296	475268	96649.2	3949539	10312	501682
114.326	0	52.6744	470547	85532.2	3595241	10811	498302
127.381	1.80756	60.5404	463309	70439.5	3192327	10748	495481
132.685	12.085	71.0138	461010	65826.5	3074339	11575	492889
146.037	24.9647	79.5923	459342	61834.9	2970539	13713	486717
143.571	32.7924	83.8458	458426	60556.6	2921176	12152	480753
140.583	35.7296	81.555	458148	60533.4	2916378	10046	474845
138.126	39.084	81.539	457637	60504.9	2908098	9375	468985
134.834	45.5923	74.4217	456788	60277.6	2882150	12636	463177
138.283	45.8767	80.1383	455655	59022.4	2844098	12012	457440
12087.9	0	37611.3	472439	148867	3703583	10873	427149
10457.2	0	37505.7	467031	129122	3512797	16724	425867
293.253	0	37685.6	460414	108761	3281002	11809	423726
273.447	0	37172.1	459932	106318	3234869	11668	421709
229.548	0	37509.8	456232	99491.8	3060970	13837	419768
189.779	0	37468.1	454735	97924.3	2984029	10640	417932
168.025	0	33041.6	453290	92580.7	2906886	13323	416160
151.651	1.89063	21283	452263	78904.9	2791965	11216	414545
167.065	12.4559	9331.75	454142	67937.5	2861138	12589	413146
173.463	30.4537	826.629	456598	61317.2	2968959	13229	411853
170.192	42.4352	200.898	456717	60625.7	2950793	13151	410617
174.948	54.8822	182.624	456318	59817.9	2900364	12886	408172
178.838	65.0531	168.025	455787	58715.7	2835523	11653	405760
176.102	68.3956	156.368	455471	58167.3	2808508	11107	403380
177.053	75.2221	142.989	455206	57675.5	2790198	11684	401023
176.174	78.0502	134.818	454760	56832.3	2753407	10717	398683
183.064	92.8991	139.915	452276	53993.1	2613753	10889	392949
168.572	97.8048	141.353	450803	52694.7	2561093	10936	387357
182.522	106.262	136.695	449155	51137.7	2494411	10577	381854
187.098	105.823	135.818	448345	50546.2	2469215	10639	376448
188.66	105.062	133.833	447645	49930	2439256	10281	371080

191.235	106.094	130.599	447123	49368.1	2438954	11123	365758
38846.1	0	37018.1	423657	118287	632780	12288	358031
21872.7	5.49574	37248.9	422771	103175	718629	13259	357013
16218.1	39.8911	37233.8	421516	91849.9	694902	12729	355135
15392.9	98.7408	37236.4	419284	86458.9	688936	13744	353351
14980	122.64	37714.4	418002	83159.3	697151	13771	351620
15006.2	142.332	37870.8	417815	80389.4	729513	12215	349934
15873	151.061	37991.2	417752	79216.7	760705	12090	348280
12959.8	161.007	38163.1	417635	76864	787328	12823	346648
7427.72	171.481	38020.4	418652	74378.1	852882	13696	345057
3639.03	180.568	38111.8	419541	72437	937980	14227	343500
281.355	188.09	37982.7	419406	69839.5	966175	15568	341977
270.874	178.507	38122.6	420176	67263.1	1082147	12917	339016
266.503	175.612	38049.8	421239	64837.5	1197091	14290	336146
265.555	180.716	37108.7	423130	63123.4	1354597	16427	333352
255.959	177.63	33471.5	424826	60827.8	1418439	13182	330641
244.924	172.174	28488.2	427461	58220.5	1523521	12309	328008
233.402	187.638	5024.47	440218	46401.9	2090298	14602	321981
228.08	186.458	214.675	442795	44264.8	2207307	12558	316582
219.887	176.817	199.239	442846	44573.3	2224398	12324	311250
222.094	183.526	178.74	442396	44285.1	2231790	12418	305958
219.439	172.845	176.079	441959	44479.6	2228276	11513	300692
214.559	168.179	166.614	441732	44646.3	2224515	12215	295458

EEV_Objec	VSS (Value of Stochastic interest	Lambda	Alpha	VSS	VSS_p
520116	16063	0.01	0.05	0.8	16063 0.029958
517951.8	15227.2	0.01	0.1	0.8	15227.2 0.028559
510604.6	16681.36	0.01	0.2	0.8	16681.36 0.031636
506133.6	15454.42	0.01	0.3	0.8	15454.42 0.02963
499632.8	16774.2	0.01	0.4	0.8	16774.2 0.032483
493831.5	17685.5	0.01	0.5	0.8	17685.5 0.034575
489926.7	17471.32	0.01	0.6	0.8	17471.32 0.034433
483497.8	20813.18	0.01	0.7	0.8	20813.18 0.041271
477833.6	23870.44	0.01	0.8	0.8	23870.44 0.047579
475054.1	24396.88	0.01	0.9	0.8	24396.88 0.048847
472271.3	25111.7	0.01	1	0.8	25111.7 0.050488
466707.2	27420.84	0.01	1.2	0.8	27420.84 0.055493
461103.6	30632.4	0.01	1.4	0.8	30632.4 0.062294
455573.9	34403.12	0.01	1.6	0.8	34403.12 0.070214
450012.2	38444.84	0.01	1.8	0.8	38444.84 0.078707
444407.4	42561.6	0.01	2	0.8	42561.6 0.087401
430528	52814	0.01	2.5	0.8	52814 0.109268
416614.6	63219.4	0.01	3	0.8	63219.4 0.131753
402698.4	73720.6	0.01	3.5	0.8	73720.6 0.154739
388672.2	84380.8	0.01	4	0.8	84380.8 0.178375
374744.4	94975.65	0.01	4.5	0.8	94975.65 0.202196
360951	105464	0.01	5	0.8	105464 0.226116
414464.3	11905.73	0.02	0.05	0.8	11905.73 0.027923
411955.4	12755.61	0.02	0.1	0.8	12755.61 0.030034
408230.1	13974.94	0.02	0.2	0.8	13974.94 0.0331
405158.8	14888.2	0.02	0.3	0.8	14888.2 0.035444
402736.4	15392.56	0.02	0.4	0.8	15392.56 0.036813
399957.5	16654.55	0.02	0.5	0.8	16654.55 0.039976
397161.4	18209.56	0.02	0.6	0.8	18209.56 0.043839
394384	19906.97	0.02	0.7	0.8	19906.97 0.048051
391567.5	21849.52	0.02	0.8	0.8	21849.52 0.052851
388801.6	23812.39	0.02	0.9	0.8	23812.39 0.057711
386028.1	25798.9	0.02	1	0.8	25798.9 0.062645
380454.2	29830.8	0.02	1.2	0.8	29830.8 0.072708
374823.4	33941.56	0.02	1.4	0.8	33941.56 0.083034
369289.1	37986.92	0.02	1.6	0.8	37986.92 0.093271
363728.2	42094.76	0.02	1.8	0.8	42094.76 0.103727
358165.4	46239.6	0.02	2	0.8	46239.6 0.11434
344205.8	56752.25	0.02	2.5	0.8	56752.25 0.141542
330170	67408	0.02	3	0.8	67408 0.169547
316370.9	77883.15	0.02	3.5	0.8	77883.15 0.197546
302439.8	88544.2	0.02	4	0.8	88544.2 0.226465
288508.4	99269.6	0.02	4.5	0.8	99269.6 0.255996
274384	110231	0.02	5	0.8	110231 0.286601
346935.6	10472.44	0.03	0.05	0.8	10472.44 0.029301
345456.5	10229.54	0.03	0.1	0.8	10229.54 0.02876

342690	10875.04	0.03	0.2	0.8	10875.04	0.030758
339923.1	12688.95	0.03	0.3	0.8	12688.95	0.035986
337156.6	14582.44	0.03	0.4	0.8	14582.44	0.041458
334377.8	16507.2	0.03	0.5	0.8	16507.2	0.047044
331623.9	18430.12	0.03	0.6	0.8	18430.12	0.052649
328856.7	20387.27	0.03	0.7	0.8	20387.27	0.058375
326087.4	22363.6	0.03	0.8	0.8	22363.6	0.06418
323323.2	24345.85	0.03	0.9	0.8	24345.85	0.070026
320554.7	26345.3	0.03	1	0.8	26345.3	0.075945
315016.6	30389.4	0.03	1.2	0.8	30389.4	0.087982
309491.4	34466.56	0.03	1.4	0.8	34466.56	0.100206
303958.7	38581.32	0.03	1.6	0.8	38581.32	0.112633
298425.3	42717.72	0.03	1.8	0.8	42717.72	0.125219
292890.8	46876.2	0.03	2	0.8	46876.2	0.137966
279057.8	57359.25	0.03	2.5	0.8	57359.25	0.1705
265222.9	67953.1	0.03	3	0.8	67953.1	0.203956
251394.8	78608.2	0.03	3.5	0.8	78608.2	0.238205
237561	89313	0.03	4	0.8	89313	0.273234
223729.6	100041.4	0.03	4.5	0.8	100041.4	0.308988
209897	110788	0.03	5	0.8	110788	0.345473
520116	16063	0.01	0.05	0.9	16063	0.029958
517951	15228	0.01	0.1	0.9	15228	0.028561
510335.4	16893.64	0.01	0.2	0.9	16893.64	0.032042
505712.1	15765.95	0.01	0.3	0.9	15765.95	0.030233
498940.4	17153.6	0.01	0.4	0.9	17153.6	0.033237
492737.8	18297.25	0.01	0.5	0.9	18297.25	0.035804
488363.9	18104.08	0.01	0.6	0.9	18104.08	0.035746
481904.1	20906.94	0.01	0.7	0.9	20906.94	0.04158
475679.1	24063.92	0.01	0.8	0.9	24063.92	0.048153
472629.2	24354.84	0.01	0.9	0.9	24354.84	0.049005
469551.3	24967.7	0.01	1	0.9	24967.7	0.050489
463442.6	26712.44	0.01	1.2	0.9	26712.44	0.054498
457338.2	29461.84	0.01	1.4	0.9	29461.84	0.060521
451264.6	32692.4	0.01	1.6	0.9	32692.4	0.067552
445154.5	36478.5	0.01	1.8	0.9	36478.5	0.075739
439050	40304	0.01	2	0.9	40304	0.08408
423740.8	50063.25	0.01	2.5	0.9	50063.25	0.105662
408542.2	59890.8	0.01	3	0.9	59890.8	0.127854
393202.9	69960.1	0.01	3.5	0.9	69960.1	0.151049
378024.6	79943.4	0.01	4	0.9	79943.4	0.174561
362764.9	90070.1	0.01	4.5	0.9	90070.1	0.198903
347376.5	100369.5	0.01	5	0.9	100369.5	0.224166
414374	11886.98	0.02	0.05	0.9	11886.98	0.027887
411722.5	12715.54	0.02	0.1	0.9	12715.54	0.029959
407656.7	13974.3	0.02	0.2	0.9	13974.3	0.033143
404248.6	14882.4	0.02	0.3	0.9	14882.4	0.035508
401449.8	15408.2	0.02	0.4	0.9	15408.2	0.036963

398339.9	16551.1	0.02	0.5	0.9	16551.1	0.039893
395249.5	17966.46	0.02	0.6	0.9	17966.46	0.04348
392121.5	19559.54	0.02	0.7	0.9	19559.54	0.047511
389035.5	21271.52	0.02	0.8	0.9	21271.52	0.051843
385928.5	23182.55	0.02	0.9	0.9	23182.55	0.056666
382822.2	25108.8	0.02	1	0.9	25108.8	0.061552
376601	29009	0.02	1.2	0.9	29009	0.071519
370394.5	32932.46	0.02	1.4	0.9	32932.46	0.081652
364126.2	36961.8	0.02	1.6	0.9	36961.8	0.092154
357940.9	40953.12	0.02	1.8	0.9	40953.12	0.102667
351753.4	44977.6	0.02	2	0.9	44977.6	0.113371
336219	55204	0.02	2.5	0.9	55204	0.141034
320651.9	65597.1	0.02	3	0.9	65597.1	0.169831
305150.2	76014.8	0.02	3.5	0.9	76014.8	0.199428
289480.2	86642.8	0.02	4	0.9	86642.8	0.230358
274081.4	97039.6	0.02	4.5	0.9	97039.6	0.261477
258547	107618	0.02	5	0.9	107618	0.293906
346779.9	10480.08	0.03	0.05	0.9	10480.08	0.029335
345130.8	10262.25	0.03	0.1	0.9	10262.25	0.028876
342039.7	10679.26	0.03	0.2	0.9	10679.26	0.030277
338946.3	12359.75	0.03	0.3	0.9	12359.75	0.035182
335858.3	14187.68	0.03	0.4	0.9	14187.68	0.040531
332772.5	16035.55	0.03	0.5	0.9	16035.55	0.045972
329675.6	17914.38	0.03	0.6	0.9	17914.38	0.051539
326577.3	19820.75	0.03	0.7	0.9	19820.75	0.05722
323485	21739	0.03	0.8	0.9	21739	0.062971
320405	23659.03	0.03	0.9	0.9	23659.03	0.068763
317321.5	25604.5	0.03	1	0.9	25604.5	0.074665
311119.8	29575.16	0.03	1.2	0.9	29575.16	0.086808
304959.5	33554.5	0.03	1.4	0.9	33554.5	0.099123
298781.4	37594.6	0.03	1.6	0.9	37594.6	0.111764
292597.6	41676.4	0.03	1.8	0.9	41676.4	0.124677
286421	45781	0.03	2	0.9	45781	0.137811
270916.8	56176.25	0.03	2.5	0.9	56176.25	0.171744
255513.1	66543.9	0.03	3	0.9	66543.9	0.206621
239994.3	77087.75	0.03	3.5	0.9	77087.75	0.243116
224615.8	87533.2	0.03	4	0.9	87533.2	0.280421
209140.9	98098.15	0.03	4.5	0.9	98098.15	0.319289
193687.5	108655.5	0.03	5	0.9	108655.5	0.359378
520116	16063	0.01	0.05	0.95	16063	0.029958
517951	15228	0.01	0.1	0.95	15228	0.028561
510138.1	17053.9	0.01	0.2	0.95	17053.9	0.032349
505432.4	15969.64	0.01	0.3	0.95	15969.64	0.030628
498432.1	17421.88	0.01	0.4	0.95	17421.88	0.033773
491884.4	18819.65	0.01	0.5	0.95	18819.65	0.03685
486945.2	18924.84	0.01	0.6	0.95	18924.84	0.03741
480440.9	21312.08	0.01	0.7	0.95	21312.08	0.042475

473947.6	24317.36	0.01	0.8	0.95	24317.36	0.048804
470665.5	24544.46	0.01	0.9	0.95	24544.46	0.049564
467410.9	24970.1	0.01	1	0.95	24970.1	0.050713
460856.8	26458.2	0.01	1.2	0.95	26458.2	0.054294
454337.3	28788.74	0.01	1.4	0.95	28788.74	0.059588
447777.4	31684.6	0.01	1.6	0.95	31684.6	0.066084
441262.2	35201.82	0.01	1.8	0.95	35201.82	0.073881
434726.8	38888.2	0.01	2	0.95	38888.2	0.082109
418345.3	48285.75	0.01	2.5	0.95	48285.75	0.103477
401999.5	57837.5	0.01	3	0.95	57837.5	0.125778
385700.7	67450.35	0.01	3.5	0.95	67450.35	0.148847
369358.6	77168.4	0.01	4	0.95	77168.4	0.172819
352951.8	87018.25	0.01	4.5	0.95	87018.25	0.197782
336602.5	96859.5	0.01	5	0.95	96859.5	0.223456
414304.5	11872.52	0.02	0.05	0.95	11872.52	0.027858
411501.3	12725.74	0.02	0.1	0.95	12725.74	0.029997
407187.7	13985.32	0.02	0.2	0.95	13985.32	0.033206
403558.9	14850.13	0.02	0.3	0.95	14850.13	0.035492
400491.5	15392.52	0.02	0.4	0.95	15392.52	0.037012
397147.4	16452.65	0.02	0.5	0.95	16452.65	0.039779
393798.6	17806.38	0.02	0.6	0.95	17806.38	0.043261
390449.9	19287.11	0.02	0.7	0.95	19287.11	0.047072
387092	20872.04	0.02	0.8	0.95	20872.04	0.051161
383752.4	22673.57	0.02	0.9	0.95	22673.57	0.055788
380403.7	24546.3	0.02	1	0.95	24546.3	0.060616
373706.2	28334.76	0.02	1.2	0.95	28334.76	0.070477
367006.7	32175.32	0.02	1.4	0.95	32175.32	0.080603
360310.2	36061.8	0.02	1.6	0.95	36061.8	0.09098
353613.9	39987.14	0.02	1.8	0.95	39987.14	0.101593
346916.4	43955.6	0.02	2	0.95	43955.6	0.112455
330172.8	54006.25	0.02	2.5	0.95	54006.25	0.140576
313368.5	64226.5	0.02	3	0.95	64226.5	0.170094
296685.5	74425.55	0.02	3.5	0.95	74425.55	0.200548
279941.8	84738.2	0.02	4	0.95	84738.2	0.232363
263198.2	95100.85	0.02	4.5	0.95	95100.85	0.265423
246353.5	105586.5	0.02	5	0.95	105586.5	0.300013
346657.1	10492.92	0.03	0.05	0.95	10492.92	0.02938
344881.1	10292.95	0.03	0.1	0.95	10292.95	0.02898
341540.3	10601.66	0.03	0.2	0.95	10601.66	0.030106
338190.3	12140.67	0.03	0.3	0.95	12140.67	0.034655
334848.4	13937.56	0.03	0.4	0.95	13937.56	0.03996
331505.5	15757.5	0.03	0.5	0.95	15757.5	0.045376
328164.7	17592.34	0.03	0.6	0.95	17592.34	0.050881
324822.8	19441.23	0.03	0.7	0.95	19441.23	0.056472
321492.4	21292.64	0.03	0.8	0.95	21292.64	0.062117
318139	23189.01	0.03	0.9	0.95	23189.01	0.067938
314797.1	25090.9	0.03	1	0.95	25090.9	0.073821

308113.3	28968.68	0.03	1.2	0.95	28968.68	0.08594
301460.3	32876.66	0.03	1.4	0.95	32876.66	0.098334
294761.7	36876.28	0.03	1.6	0.95	36876.28	0.111194
288062	40912.02	0.03	1.8	0.95	40912.02	0.124362
281396.4	44944.6	0.03	2	0.95	44944.6	0.137723
264668.8	55176.25	0.03	2.5	0.95	55176.25	0.172509
247959.3	65476.7	0.03	3	0.95	65476.7	0.2089
231249.9	75823.15	0.03	3.5	0.95	75823.15	0.246922
214532	86197	0.03	4	0.95	86197	0.286627
197831	96566.05	0.03	4.5	0.95	96566.05	0.328013
181111	106970	0.03	5	0.95	106970	0.371319

EEV_Objec	VSS (Value of Stochasti	interest	Lambda	Alpha	VSS	VSS_p
521855.2	15650.77	0.01	0.05	0.8	15650.77	0.029117
520594.5	15245.53	0.01	0.1	0.8	15245.53	0.028452
518072.6	14495.37	0.01	0.2	0.8	14495.37	0.027218
515734.2	13732.76	0.01	0.3	0.8	13732.76	0.025937
513301.7	13104.35	0.01	0.4	0.8	13104.35	0.024894
510943	12486.99	0.01	0.5	0.8	12486.99	0.023856
507104	13576.03	0.01	0.6	0.8	13576.03	0.026074
504298.6	14037.43	0.01	0.7	0.8	14037.43	0.027082
501420.9	14727.12	0.01	0.8	0.8	14727.12	0.028533
497179.4	16825.64	0.01	0.9	0.8	16825.64	0.032734
494974.2	16944.84	0.01	1	0.8	16944.84	0.033101
491073	17003.03	0.01	1.2	0.8	17003.03	0.033466
486833.5	18159.48	0.01	1.4	0.8	18159.48	0.03596
482490.5	20003.55	0.01	1.6	0.8	20003.55	0.039809
478452.9	21634.09	0.01	1.8	0.8	21634.09	0.043261
474092.4	23631.58	0.01	2	0.8	23631.58	0.047479
466508.9	25758.1	0.01	2.5	0.8	25758.1	0.052325
459791.7	28089.32	0.01	3	0.8	28089.32	0.057574
453074.5	30782.55	0.01	3.5	0.8	30782.55	0.063619
446357.2	33698.77	0.01	4	0.8	33698.77	0.070198
439640	36829.99	0.01	4.5	0.8	36829.99	0.077298
432922.8	40121.21	0.01	5	0.8	40121.21	0.084815
415459.4	11855.65	0.02	0.05	0.8	11855.65	0.027745
414229.8	12019.17	0.02	0.1	0.8	12019.17	0.028198
411819.2	12617.82	0.02	0.2	0.8	12617.82	0.029728
409902.3	12864.73	0.02	0.3	0.8	12864.73	0.03043
408076.9	13076.13	0.02	0.4	0.8	13076.13	0.031048
406376.7	13185.26	0.02	0.5	0.8	13185.26	0.031426
404587.7	13521.31	0.02	0.6	0.8	13521.31	0.032339
402882.6	14170.36	0.02	0.7	0.8	14170.36	0.033977
401177.6	14970.41	0.02	0.8	0.8	14970.41	0.035974
401042.7	14238.35	0.02	0.9	0.8	14238.35	0.034286
399903	14534.99	0.02	1	0.8	14534.99	0.035072
397327.1	15481.88	0.02	1.2	0.8	15481.88	0.037504

394566.5	16659.53	0.02	1.4	0.8	16659.53	0.040512
391805.8	17871.18	0.02	1.6	0.8	17871.18	0.043623
389045.2	19119.83	0.02	1.8	0.8	19119.83	0.046843
386284.5	20412.47	0.02	2	0.8	20412.47	0.050191
379382.9	23846.09	0.02	2.5	0.8	23846.09	0.059138
372481.3	27429.71	0.02	3	0.8	27429.71	0.06859
365579.7	31109.33	0.02	3.5	0.8	31109.33	0.078422
358678.1	34867.95	0.02	4	0.8	34867.95	0.088599
351776.4	38682.56	0.02	4.5	0.8	38682.56	0.099069
344874.8	42541.18	0.02	5	0.8	42541.18	0.109807
348012.4	10196.59	0.03	0.05	0.8	10196.59	0.028465
347322.9	10118.1	0.03	0.1	0.8	10118.1	0.028307
345925.9	10233.09	0.03	0.2	0.8	10233.09	0.028732
344271.8	10762.18	0.03	0.3	0.8	10762.18	0.030313
342954.5	11003.46	0.03	0.4	0.8	11003.46	0.031087
341619.7	11302.33	0.03	0.5	0.8	11302.33	0.032025
340320.2	11603.76	0.03	0.6	0.8	11603.76	0.032972
339002.6	11943.38	0.03	0.7	0.8	11943.38	0.034032
337686.5	12291.48	0.03	0.8	0.8	12291.48	0.035121
336348.3	12668.74	0.03	0.9	0.8	12668.74	0.036298
335051.8	13009.15	0.03	1	0.8	13009.15	0.037376
332418.3	13787.72	0.03	1.2	0.8	13787.72	0.039825
329784.2	14692.84	0.03	1.4	0.8	14692.84	0.042653
327150.3	15720.72	0.03	1.6	0.8	15720.72	0.04585
324515.9	16900.08	0.03	1.8	0.8	16900.08	0.0495
321879	18200.95	0.03	2	0.8	18200.95	0.05352
315266.1	21568.94	0.03	2.5	0.8	21568.94	0.064034
308711.2	24981.8	0.03	3	0.8	24981.8	0.074865
302089.3	28559.72	0.03	3.5	0.8	28559.72	0.086375
295538.4	32115.6	0.03	4	0.8	32115.6	0.098017
288913	35780	0.03	4.5	0.8	35780	0.110196
282370	39380.99	0.03	5	0.8	39380.99	0.122396
521791.3	15679.65	0.01	0.05	0.9	15679.65	0.029173
520466.7	15303.3	0.01	0.1	0.9	15303.3	0.028563
517817.4	14587.61	0.01	0.2	0.9	14587.61	0.027399
515346.8	13915.18	0.01	0.3	0.9	13915.18	0.026292
512785.1	13374.9	0.01	0.4	0.9	13374.9	0.02542
510284.7	12787.31	0.01	0.5	0.9	12787.31	0.024447
506316.7	13778.28	0.01	0.6	0.9	13778.28	0.026492
503248.6	14153.38	0.01	0.7	0.9	14153.38	0.027355
500171.8	14853.16	0.01	0.8	0.9	14853.16	0.02884
495593.7	17238.28	0.01	0.9	0.9	17238.28	0.033614
493234	17438.99	0.01	1	0.9	17438.99	0.034149
488994	17675.99	0.01	1.2	0.9	17675.99	0.034887
484377.4	18807.61	0.01	1.4	0.9	18807.61	0.037377
479545.7	20618.26	0.01	1.6	0.9	20618.26	0.041223
474982.8	22712.16	0.01	1.8	0.9	22712.16	0.045635

470179.3	25148.7	0.01	2	0.9	25148.7	0.050772
461130.1	28420.92	0.01	2.5	0.9	28420.92	0.058055
453337.1	30637.9	0.01	3	0.9	30637.9	0.063305
445544.1	33183.88	0.01	3.5	0.9	33183.88	0.069317
437751.1	35940.87	0.01	4	0.9	35940.87	0.075874
429958.2	38876.85	0.01	4.5	0.9	38876.85	0.082922
422165.2	41968.83	0.01	5	0.9	41968.83	0.090424
415378	11847.96	0.02	0.05	0.9	11847.96	0.027732
414065.1	11974.85	0.02	0.1	0.9	11974.85	0.028107
411456.6	12614.41	0.02	0.2	0.9	12614.41	0.029746
409358.4	12882.62	0.02	0.3	0.9	12882.62	0.03051
407323.9	13105.1	0.02	0.4	0.9	13105.1	0.031171
405405	13257.02	0.02	0.5	0.9	13257.02	0.031665
403396.4	13620.62	0.02	0.6	0.9	13620.62	0.032662
401492.8	14126.23	0.02	0.7	0.9	14126.23	0.033988
399589.2	14902.83	0.02	0.8	0.9	14902.83	0.035954
398962.2	14456.85	0.02	0.9	0.9	14456.85	0.034969
397477.1	14890.9	0.02	1	0.9	14890.9	0.036111
394309.2	15985.79	0.02	1.2	0.9	15985.79	0.038962
391045.6	17210.42	0.02	1.4	0.9	17210.42	0.042156
387782	18460.05	0.02	1.6	0.9	18460.05	0.045441
384518.3	19727.68	0.02	1.8	0.9	19727.68	0.048801
381254.7	21031.31	0.02	2	0.9	21031.31	0.052279
373060.5	24489.47	0.02	2.5	0.9	24489.47	0.061601
364936.5	28011.46	0.02	3	0.9	28011.46	0.071285
356777.5	31693.54	0.02	3.5	0.9	31693.54	0.081585
348582.4	35500.55	0.02	4	0.9	35500.55	0.092429
340412.2	39334.84	0.02	4.5	0.9	39334.84	0.103582
332300.2	43151.77	0.02	5	0.9	43151.77	0.114933
347866.2	10241.83	0.03	0.05	0.9	10241.83	0.0286
347030.3	10171.67	0.03	0.1	0.9	10171.67	0.028476
345339.6	10248.4	0.03	0.2	0.9	10248.4	0.028821
343378.7	10725.32	0.03	0.3	0.9	10725.32	0.030289
341763.9	10906.09	0.03	0.4	0.9	10906.09	0.030924
340149.1	11123.86	0.03	0.5	0.9	11123.86	0.031667
338534.4	11373.63	0.03	0.6	0.9	11373.63	0.032505
336919.6	11643.4	0.03	0.7	0.9	11643.4	0.033404
335304.8	11948.18	0.03	0.8	0.9	11948.18	0.034408
333690.1	12284.95	0.03	0.9	0.9	12284.95	0.035508
332075.3	12650.72	0.03	1	0.9	12650.72	0.036698
328845.7	13439.27	0.03	1.2	0.9	13439.27	0.039263
325616.2	14281.81	0.03	1.4	0.9	14281.81	0.042018
322383.2	15191.77	0.03	1.6	0.9	15191.77	0.045003
319157.1	16193.9	0.03	1.8	0.9	16193.9	0.048289
315927.6	17372.44	0.03	2	0.9	17372.44	0.052123
307853.7	20950.3	0.03	2.5	0.9	20950.3	0.063717
299779.8	24680.16	0.03	3	0.9	24680.16	0.076065

291706	28469.02	0.03	3.5	0.9	28469.02	0.088917
283632.1	32298.89	0.03	4	0.9	32298.89	0.102234
275558.3	36155.75	0.03	4.5	0.9	36155.75	0.11599
267484.4	40033.61	0.03	5	0.9	40033.61	0.130183
521731.1	15702.95	0.01	0.05	0.95	15702.95	0.029218
520346.1	15349.89	0.01	0.1	0.95	15349.89	0.028654
517576.2	14662.79	0.01	0.2	0.95	14662.79	0.027549
514990.1	14001.93	0.01	0.3	0.95	14001.93	0.026469
512309.4	13538.57	0.01	0.4	0.95	13538.57	0.025746
509681.7	13037.33	0.01	0.5	0.95	13037.33	0.024941
505605	14002.02	0.01	0.6	0.95	14002.02	0.026947
502271.5	14398.52	0.01	0.7	0.95	14398.52	0.027868
499018.8	15028.15	0.01	0.8	0.95	15028.15	0.029235
494235.2	17509.78	0.01	0.9	0.95	17509.78	0.034216
491714	17874	0.01	1	0.95	17874	0.035075
487170	18236.99	0.01	1.2	0.95	18236.99	0.036084
482259.3	19422.69	0.01	1.4	0.95	19422.69	0.038715
476996.1	21305.92	0.01	1.6	0.95	21305.92	0.042757
471929	23551.95	0.01	1.8	0.95	23551.95	0.047534
466764.7	26124.32	0.01	2	0.95	26124.32	0.053002
456297.4	30419.62	0.01	2.5	0.95	30419.62	0.0625
447537.9	33215.15	0.01	3	0.95	33215.15	0.06909
438778.3	36066.67	0.01	3.5	0.95	36066.67	0.075955
430018.8	38966.2	0.01	4	0.95	38966.2	0.083086
421259.3	41917.72	0.01	4.5	0.95	41917.72	0.0905
412499.8	44940.25	0.01	5	0.95	44940.25	0.098243
415314.5	11834.51	0.02	0.05	0.95	11834.51	0.027706
413933.8	11933.17	0.02	0.1	0.95	11933.17	0.028021
411175.1	12550.89	0.02	0.2	0.95	12550.89	0.02962
408936.2	12772.84	0.02	0.3	0.95	12772.84	0.030288
406726.4	13041.62	0.02	0.4	0.95	13041.62	0.031069
404644.9	13287.06	0.02	0.5	0.95	13287.06	0.031792
402474.7	13685.31	0.02	0.6	0.95	13685.31	0.032885
400417.5	14127.52	0.02	0.7	0.95	14127.52	0.03408
398360.3	14785.74	0.02	0.8	0.95	14785.74	0.035788
397204.2	14648.81	0.02	0.9	0.95	14648.81	0.035568
395286.2	15330.84	0.02	1	0.95	15330.84	0.037336
391510.1	16661.95	0.02	1.2	0.95	16661.95	0.040821
387779.9	17980.07	0.02	1.4	0.95	17980.07	0.044312
384049.8	19330.22	0.02	1.6	0.95	19330.22	0.047921
380315.6	20707.4	0.02	1.8	0.95	20707.4	0.051636
376589.5	22093.53	0.02	2	0.95	22093.53	0.055416
367264	25684.97	0.02	2.5	0.95	25684.97	0.065365
357936.8	29420.17	0.02	3	0.95	29420.17	0.075951
348613.2	33240.76	0.02	3.5	0.95	33240.76	0.087051
339287.9	37160.06	0.02	4	0.95	37160.06	0.098712
329956.8	41123.17	0.02	4.5	0.95	41123.17	0.11082

320637.2	45120.83	0.02	5	0.95	45120.83	0.123363
347733.7	10297.31	0.03	0.05	0.95	10297.31	0.028761
346787.8	10225.22	0.03	0.1	0.95	10225.22	0.028641
344853.3	10281.71	0.03	0.2	0.95	10281.71	0.028952
342638.2	10712.82	0.03	0.3	0.95	10712.82	0.030318
340776.6	10843.42	0.03	0.4	0.95	10843.42	0.030838
338915	11019.03	0.03	0.5	0.95	11019.03	0.031489
337053.4	11226.64	0.03	0.6	0.95	11226.64	0.032235
335191.8	11456.24	0.03	0.7	0.95	11456.24	0.033049
333330.2	11726.85	0.03	0.8	0.95	11726.85	0.033985
331468.5	12031.45	0.03	0.9	0.95	12031.45	0.035026
329606.9	12370.06	0.03	1	0.95	12370.06	0.036172
325883.7	13132.27	0.03	1.2	0.95	13132.27	0.038736
322160.5	13985.48	0.03	1.4	0.95	13985.48	0.041605
318437.3	14914.69	0.03	1.6	0.95	14914.69	0.044742
314714.1	15926.91	0.03	1.8	0.95	15926.91	0.04817
310990.9	17017.12	0.03	2	0.95	17017.12	0.05188
301682.9	20298.15	0.03	2.5	0.95	20298.15	0.063041
292374.8	24207.18	0.03	3	0.95	24207.18	0.076464
283066.8	28183.21	0.03	3.5	0.95	28183.21	0.090548
273758.8	32199.24	0.03	4	0.95	32199.24	0.105241
264450.7	36241.27	0.03	4.5	0.95	36241.27	0.120526
255142.7	40315.3	0.03	5	0.95	40315.3	0.13645