ANALYSIS OF AGRICULTURAL PRODUCTION IN ALBANIA: PROSPECTS FOR POLICY IMPROVEMENT

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(ABSTRACT)

The overall objective of this study is to develop a framework to predict the impacts of government policies on agricultural production in Albania. The specific goal of this study is to provide some empirical estimates of the farmers' short-run supply response to government policies that effect output and input prices.

Different theoretical approaches to integrating the questions this study purports to answer were considered. Two models were deemed as most appropriate for Albanian agriculture. The first is a semi-commercial farm household model and the second is the well-known indirect profit function model. The first model was preferred. However, the second was used instead, due to the lack of information necessary for an empirical application of the semi-commercial farm household model.

A quadratic functional form was selected to approximate the profit function. It satisfied the Taylor series approximation convergence test. Two approaches were used to estimate the empirical model. In the first, the traditional approach, the symmetry and homogeneity conditions were imposed beforehand and then the system of equations was estimated using the ITSUR procedure in SAS. Following common practice, a joint Rao test of these conditions was conducted, implicitly assuming that the test statistic has a Fisher distribution or, stated differently, assuming that parameter estimators are normally distributed. The test results indicate that the conditions are met.

A second approach, proposed by McGuirk, *et al.*, was also used in this study. The approach proposed by McGuirk, *et al*., requires that, before imposing and/or testing any theoretical assumption, the unrestricted model is estimated and tested to see if all the underlying statistical assumptions of the linear regression are met.

The misspecification tests suggested that the model is not statistically adequate. This finding indicated that the theoretical test conducted in the traditional approach was invalid. An alternative estimation procedure is proposed in the study for cases when a statistically adequate model cannot be specified. Named the sub-sample or the bootstrapping method, this procedure consists of randomly selecting a large number of sub-samples from the cross-sectional sample and running a regression for each of them. The large number of estimates for each of the coefficients serves as a basis for estimating 95-percent confidence intervals.

An inspection of the supply and input demand elasticities calculated based on coefficients estimated through the sub-sample method revealed that half of them have wide 95 percent confidence intervals. Therefore, predicting policy impacts across all output and input equations is not possible. However, elasticities that have narrow confidence intervals and make economic sense can be used to predict isolated policy impacts, if Albania returns to the conditions that prevailed before the political turmoil of 1997.

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CHAPTER I

INTRODUCTION

I.1 Introduction

Agriculture has always been the most important sector of the Albanian economy. Until Communists came into power in 1944, around 85 percent of population made their living based mostly on subsistence farming (Lorenzoni). Immediately following their rise to power, the Communists started a rapid industrialization of the country and the collectivization of agriculture. Significant economic growth was achieved during the 1960s and early 1970s as a result. However, by the late 1980s, the Albanian economy was suffering from problems associated with poorly managed collective farms and state-owned companies.

In the turbulent year following the Democratic Revolution of 1991, almost all agricultural land was distributed to collective farm members and most of the state-owned companies were shut down. During the political transition, from January 1991 to March 1992, total output fell by 30 percent in real terms and the budget deficit was 45 percent of GDP (World Bank). During that period, the economy was severely affected by input and foreign exchange shortages, social upheavals linked to the privatization of collective farms throughout the country, and disruptions caused by the absence of alternative distribution and allocation mechanisms to replace the collapsing centrally planned system. Social and economic chaos led to rapidly falling living standards for the vast majority of the population, especially in poor rural areas. Agricultural surpluses dwindled to almost

nothing as Albania's 380,000 new private farmers concentrated on ensuring the survival of their families through subsistence production.

Agriculture is still the most important sector of Albanian economy. Around 50 percent of the population is employed in agriculture (Liko). Along with trade, it is the fastest growing sector since the Democratic Party won a solid parliamentary majority in March 1992. Domestic agricultural production is starting to replace food imports. On the other hand, huge investments are required in industry and tourism in order to make them competitive. The probability of such investments occurring in the near future is low because of the unstable political situation in the Balkans.

Given the importance of agriculture, the Albanian government needs to design sound policies aimed at increasing agricultural production. Up to now, policies were designed mainly based on intuition and other countries' experiences rather than on reliable data. Under these conditions, it is not improbable to find policies that contradict each other or that do not contribute to the fulfillment of government goals.

I.2 Problem Statement

After the economic collapse of 1991-92, the Albanian government faced the formidable task of restoring food security and providing income for the rural population. While the privatization of collective and state farms was expected to increase the agricultural output without any fiscal drain, other interventions could be very costly for a government that had inherited huge budget and trade deficits.

Time after time in the last four years, the Albanian government has faced the dilemma of choosing one action over another, without having in hand a model that would predict the impacts of different courses of action. For example, in 1994, the government was pressured by fertilizer traders to lower the import tariff on fertilizers and chemicals. Their argument was that a lower tariff would increase the use of fertilizers and chemicals,

which subsequently would boost agricultural production. In 1995, after further pressure from traders and farmer associations, the government totally lifted the import tariff on fertilizers and chemicals. It is estimated that if the lost revenues from the lift during 1995 were used to finance improvements in the damaged irrigation system, the irrigated area would have increased by 6 percent (Sharra). While both alternatives might have had a positive impact on total agricultural output, it is unclear which one would have had the most impact. Further, it is unclear how these two different alternatives would have affected the production of specific agricultural products.

Another example of a government decision based solely on intuition is the increase in wheat procurement price by the government in the fall of 1994. Grumbullimis (official collection centers) were purchasing wheat from farmers with a price floor of 10 lek/kg. At that time, it was argued that an increase in the price floor would provide a good incentive for farmers to produce more wheat (Andoni).

The price floor was raised to 14 lek/kg by an executive order in the Fall and was highly publicized by the government as a remedy for the wheat shortages Albania was expected to face after the exhaustion of food aid stocks. However, in the fall of 1995, Albania was facing the feared wheat shortages, despite the price hike. Indeed, the increase in area planted to wheat was not very impressive. From 165,800 hectares in 1994, wheat production increased to 182,300 hectares in 1995 (Sinani)-- an increase of only 11 percent.

As in the fertilizer case, it is not clear if the course of action taken was the best alternative considering agriculture as a whole. Funds used to finance the floor price increase for wheat might have been used in a more effective way if the policy makers had a model that could estimate the results of alternative policies.

Lately, the Government decided to lift the tariff on wheat seed imports and to exempt wheat seed traders from paying a Value Added Tax (VAT). The Minister of Food and Agriculture considers the latest move of the Albanian Government to be one that will

boost wheat production, as the combined effect of the two measures will be a decline by 20 percent at the farm-gate wheat seed prices (ATA).

High expectations of the Albanian Government are implicitly based on the assumption that wheat supply is elastic to wheat seed price. This assumption may or may not be true. Furthermore, no consideration seems to have been given to how the policy might impact other commodities. The problem, as mentioned above, is that policy makers do not have a quantitative model to help assess the effects of different policies.

I.3 Justification of the Study

Most recent studies of Albanian agriculture have failed to address the above problems in their several dimensions. Rather, these studies have primarily addressed the effects of different policies on specific agricultural commodities or inputs and assumed no substitution effects and inter-crop relationships. However, growth in agricultural output arises within the context of a complex set of economic forces and policy actions.

In order to address the policy debate adequately, a more comprehensive assessment of the underlying sources of growth in Albanian agriculture must be examined. This assessment must include an evaluation of the impacts attributable to all fixed and variable factors. Only when all policy ramifications throughout the system are estimated, will decision making become more of a science than an art.

This study is important because it will: assist policy makers as they try to encourage a rapid growth in agricultural output; provide an analytical framework for Albanian policy analysts; and determine what additional data are needed to conduct future research.

This study will focus on wheat, white beans, potatoes, meat, milk, vegetables, and fruits. A significant portion of Albania's demand for wheat was, until recently, satisfied by international food aid. Despite the increase in wheat production, the government and

private traders are currently importing wheat and flour using hard currencies. Thus, it is of great importance for policy makers to know what impacts different policies will have on the demand for wheat imports.

Food imports have significantly decreased in the last two years as a result of increased domestic dairy and meat supplies. The estimation of policy impacts on meat and milk production is of great interest because an increase in their production contributes to the reduction of the trade deficit. Of similar interest is the analysis of white beans, potatoes, vegetables, and fruit production since they still make up a major part of food imports.

I.4 Objectives

The overall objective of this study is to develop a framework for predicting the impacts of government policies on agricultural production in Albania. Whereas the empirical results will help policy makers to evaluate alternative policies, the methods will help Albanian production economists to build more accurate empirical models once more data become available. The specific objectives of the study are as follows:

1. To predict the effects of price policies on major agricultural products;
2. To predict the effects of tariffs and subsidies on the use of purchased inputs;
3. To predict the effects of land, irrigation, and labor policies on agricultural production;
4. To determine what additional data are needed to conduct future research; and
5. To evaluate the validity of results from the traditional econometric approach used to estimate elasticities in light of a new approach proposed by McGuirk *et al*.

I.5 Summary of Methods

In order to achieve the objectives of this study a model of the Albanian agricultural sector is developed. Output supply functions and input demand functions are estimated

using a short-run profit maximizing approach. Each farm is considered as a production unit that can produce more than one output by using several inputs. Farmers are assumed to be profit maximizers, meaning that they produce the product mix that yields the highest returns, given output and variable input prices, and the level of fixed inputs. Their consumption decisions are implicitly assumed to be separated from the production decisions. Thus, the value of the products consumed by the household is considered as part of the total revenue realized from production.

Livestock, fertilizers, mechanized services, seeds, and chemicals are assumed to be variable inputs. Land, labor, fruit trees, and irrigation are considered as fixed inputs. Only the major outputs mentioned above are included in the model. Other crops like cotton, tobacco, sunflower seeds, and so forth, which were part of the agricultural output mix under the centralized economy, have now almost disappeared as a result of cheaper and/or higher quality imports.

Two econometric approaches are used to estimate output supply functions and input demand functions. Following the traditional approach, the conditions of homogeneity and symmetry are imposed and the resulting structural model is estimated using an Iterative Seemingly Unrelated Regression (ITSUR) procedure. Further, an overall F-test is conducted to test if the homogeneity and symmetry conditions are met. Based on estimated parameters of supply and demand functions, own-price, cross-price, and output-fixed input elasticities are calculated.

Following the approach proposed by McGuirk, *et al*, the unrestricted model is first estimated and then tested to see if all the underlying statistical assumptions of the linear regression model are met. A statistically adequate unrestricted model is critical since it is, by construction, the statistical model from which the structural model is derived. Consequently, if statistical assumptions underlying the unrestricted model are invalid, statistical inferences drawn from the structural model will be invalid as well.

Finally, an alternative estimation procedure is proposed in this study for cases when statistical assumptions underlying the unrestricted model are badly violated and the researcher has a big sample available for his/her estimation. A large number of randomly picked sub-samples are drawn preserving the same stratification used in drawing from the big sample. Each sub-sample is used to estimate the parameters of the unrestricted model using the Ordinary Least Squares (OLS) method. In this way, the large number of estimates acquired for each parameter, serves as a basis for describing the underlying distribution. Once the underlying distribution characteristics of the unrestricted model parameters are known, theoretical tests can be conducted and statistical inferences can be drawn.

I.6 Overview of the Dissertation

The reminder of this dissertation is organized as follows. Chapter II presents a chronological view of Albanian agriculture since the 1940s, concentrating especially on the dramatic changes that have taken place in the agricultural sector and the economy as a whole during the 1990s. Chapter III presents different theoretical approaches to integrating the questions this study attempts to answer. Chapter IV presents the empirical models along with variable specifications and data sources. Chapter V presents and discusses the results of the analysis. Chapter VI summarizes the dissertation, offers some conclusions, and provides suggestions for further research.

CHAPTER II

THE ALBANIAN AGRICULTURE AND ECONOMY

II.1 General information about Albania

The Republic of Albania borders on what was formerly Yugoslavia to the north and east, on Greece to the south, and on the Adriatic and Ionian Seas to the west. The total land area is 11,100 sq. miles (about the size of Maryland), of which 30 percent is below 1,000 feet of altitude, another 40 forty percent is between 1,000 - 3,300 feet, and, of the remaining area, only 1.2 percent is above 6,600 feet.[1] Albania can be divided in three climatic areas: the Mediterranean lowland area, the Mediterranean hilly area, and the Mediterranean pre-mountain area.

Albania's total population is currently 3.3 million people. Approximately 55 percent of its people live in rural areas. The average life expectancy is 72 years. Only 9 percent of the current population is over age 60, whereas about one third are under 15 years of age. The current natural increase in population is 18 per 1,000 inhabitants. The rate of literacy is about 95 percent (Liko).

[1] If not otherwise noted, the source of statistical data presented in the first two sections is: *Statistical Yearbook of Albania.* Ministry of Economy, Department of Statistics, Albania, 1991.

II.2 A Look at the Past of Albanian Agriculture

When Communists came into power in 1944, the area of arable land was around 950,000 acres. From 1944 - 1950 most of large land holdings became state property, and government run farms were created on this land (3.2 percent of the total farmland). The remainder was equally divided among rural families. Following the pattern prevalent in Eastern Europe, the forced collectivization of private land was begun immediately after the agrarian reform.

The first collective farm (in the communist terminology: an agricultural cooperative) was created in 1946. By 1960, the process of collectivization was generally complete throughout the country. In 1960, 13 percent of the land was in private use, as compared to only about 3 percent by 1989.

The Communists' ultimate agricultural goal was to transform the peasant agriculture into a modern one, based on very large, government-run farms. To achieve this goal, they imposed both structural and technical changes.

One of the major structural changes involved the consolidation of farming operations. Farm size was increased in two ways: first by improving and expanding agricultural land, and then by farm mergers. From 1950 to 1990 the land under cultivation was increased by 780,000 acres (82 percent). A part of the collective farms' land was joined to government-run farms. Small collective farms were forced to merge into giant ones, especially in the lowland areas.

The other direction of change was the technological modernization of agriculture. In the 1940s Albania had a very primitive agriculture. Supported by the Soviet Union until 1960 and then by China from 1960 until 1978, agriculture modernization was dramatic. In 1990, there were 22,300 15-horsepower units of tractors (1 per about 80 acres), 60 percent

of the arable land was irrigated, and the use of chemical fertilizer averaged 120 pounds of active ingredients per acre of cultivated land. The Higher Agricultural Institute founded in 1950, (today called the Agricultural University of Tirana), and a wide network of agricultural vocational schools, trained a large number of agricultural specialists.

As a result, total agricultural production increased 4.4 times between 1950 and 1990. In the same period, the number of fruit trees increased four fold (4.1); the number of cows increased 2.6 times, and their productivity almost four times (3.9); the number of pigs almost five times (4.8), and the number of poultry eight times. Table II.1 summarizes selected data that focus on the development of Albanian agriculture from 1950 to 1990.

However, the real conditions were not as positive as these numbers would appear to indicate. Although the living conditions of rural people were improved, especially in the lowland areas, the populace was not satisfied. Images from Yugoslav and Greek television told Albanian farmers that their neighbors were living in far better conditions. Back in 1944, the Albanian farmers were as well off as those in the neighboring countries. The general opinion among farmers was that Albanian agriculture had far higher growth potential than was achieved. Indeed, Albanian agriculture had the lowest productivity among East European countries in 1988 (Table II.2).

Although these material comparisons were not publicly available at that time, most Albanian farmers could understand that something was totally wrong with the way agriculture was run in Albania. Obviously, it is impossible to find a published study from that time dealing with farmers' complaints. However, a discussion about those complaints will be presented here based on the author's personal anecdotal experience as a financial manager of a collective farm.

Table II.1. Some Indicators of Albanian Agriculture from 1950 - 1990

Indicator	1950	1960	1970	1980	1990
Total land (1,000 sq. miles)	11.1	11.1	11.1	11.1	11.1
Arable land (million acres)	0.969	1.132	1.484	1.739	1.75
Percentage of arable land	9.79	15.93	20.89	24.48	24.63
Land in private use (%)	91.4	13.6	3.5	2.7	4.3
Collective farm land (%)	5.4	72.2	75.8	75.9	71.6
State farm land (%)	3.2	14.2	20.7	21.4	24.1
Ag. output (Million dollars)	186.5	270.2	483.5	698.7	817
Grain production (1000 tons)	201	197	494	790	841
Vegetables (1000 tons)	53	71	230	332	393
Fruit production (1000 tons)	47.2	54.3	123.5	179.8	182
Milk production (1000 tons)	116	164	215	388	517
Meat production (000 tons)	28	44	51	62	92
Total population(thousands)	1,215	1,607	2,136	2,671	3256

Source: Statistical Yearbook of Albania. Ministry of Economy, Department of Statistics, Albania, 1991

Table II.2. A Comparison of Agricultural Productivity among East European Countries, 1988

(tons per hectare)

Commodity	Albania	Bulgaria	Czechoslovakia	Hungary	Romania
Wheat	3.20	4.01	5.28	5.45	3.58
Potatoes	5.41	9.73	20.64	-	-
Sunflower seed	1.00	1.57	-	-	1.51
Sugar beets	17.19	16.08	18.60	39.34	11.36
Milk yield•	1,274	3,397	3,777	-	2,074

Source: FAO Production Yearbook, 1988

• Litters per head

Farmers complained that the government exploited them because agriculture was supporting the high rate of investment in heavy industry, and this investment was not giving the expected results. For example, a giant factory built to produce automobiles and tractors could not produce any. The spare parts it produced were of very poor quality and far from a sufficient quantity. This was true despite the fact that the plant had as many machine tools as all of Italy had in 1939, and their quality was far better than the 1939 Italian machines.[2] Rural people also complained that agriculture was supporting the ever-increasing defense expenditures. Enver Hoxha, the Stalinist dictator, had declared that Albania might be attacked by a coalition of western and eastern powers and superpowers. Thus, cement pillboxes and bunkers were constructed everywhere-- it is estimated that there are somewhere between 600,000 and 800,000 of them.

Farmers' most tangible complaint was that the bureaucrats of their collective farms exploited them. After farmers had "freely" joined collective farms (beginning in 1946), they did not have the right to leave them. They had to work on the collective land simply as hired workers, with the distinction that they were not paid a fixed hourly wage like the workers of government-run farms. Their wages depended on the financial condition of their collective farm. However, they had no control over the farm's finances because the managers were appointed by the government. The government and its managers made every production decision, and the government strictly controlled funds. It dictated the acreage of crops that collective farms should plant, the investments that could be made, and the quantity of production that would be sold at very low, fixed prices to government procurement centers in market towns.

Through this command production/low prices system, and through direct fees, the government captured a major portion of the GDP created in agriculture for its "strategic" investments. According to official estimates, one third of investments in industry and infrastructure were financed by the collective farms' GDP share (Alia). Indeed, the

[2] Source: Italian RAI UNO TV Network, " Albania 1979 - Here Stalin Is Still Liked" , December 1979.

government-run farms suffered from the same system, but their losses were covered annually by the government. The collective farms had to cover their deficits by lowering the wages of their "members" (workers).

Normally, the wage of these "members" was about one half that of a worker on a government farm. Under these conditions, it is understandable that farmers would feel exploited by the government, or, as they used to say, "by cities and towns." Inside collective farms, managers and supervisors, whose salaries were fixed, had no incentives to effectively administer the farms' assets. On the contrary, they were the big abusers of the farms' property. The prevailing attitude was that the property belonged to no one. As a result a significant part of agricultural production was lost by spoilage and damage between the fields and the consumers.

Finding themselves in such a position, the rural people's incentives for work gradually went down, while the incentives for STEALING the produce, as well as materials of "their" collective farms went up. The last blow to "agricultural cooperative members" personal incentives came at the end of the 1970s when they were forbidden to own any animal, except chickens, and to have no more than 0.5 acre of land for private use. Because of these and other disincentives, the agriculture in 1980s became a net deficit sector, requiring subsidies rather than producing surpluses.

Productivity in agriculture was slowing because of farmers/workers' lack of incentives and because of the absence of new investments. While the population increased by 22 percent between 1980 and 1990, the increase of agricultural production was only sixteen percent (16%). As a result, during the 1980s Albania became more and more dependent on food imports, especially meat and dairy products.

By 1990, the situation of Albanian agriculture looked hopeless. The productivity of a considerable part of the land placed under cultivation during the 1960s and 1970s had

declined because much of that expansion had been on land that was unsuitable for cultivation. Livestock productivity declined because of the lack of care in tending collective herds. Furthermore, government's pressure to increase the production of bread grains led to the destruction of pastures, especially in mountainous areas. The farmers' saying: "We used to eat cheese with bread, now we have to eat bread with cheese!" characterizes that situation well. Furthermore, most of the tractors were old, and the incentives and the capability to repair them were very low. Fertilizer production decreased because of factory breakdowns and the lack of spare parts. Lastly, there was a general fuel shortage, which affected the fuel supply for agricultural use. The Communists tried to find western support, but they were unsuccessful. The only hope for a better future depended on political change.

II.3 The Dramatic Changes of Early 1990's

The highly anticipated political change began in December 1990. Students and a few of the younger faculty of Tirana University and the Agricultural University of Tirana, supported by the people of Tirana, founded the Democratic Party. It was the first publicly organized opposition after 46 years of totalitarian rule.

One of the main points of the Democratic Party's proposed program was the privatization of land. In simplest terms, the idea of the Democratic Party was to distribute the land used by collective farms to their "members" according to the size of their families. After taking title of their land, they might choose to join, or not to join a cooperative. The Communists used all their power to preserve the old-type collective farms because they were the bases of the Communists political control in villages. The collective farms exercised strong control over the most vital village services and employment.

Before the general and only nominally "free" elections of March 1991, the Communists distributed some land and some livestock to farmers in an attempt to satisfy their growing desire for privatization. Because of this, and for many other reasons, Communists won those elections in almost all the rural zones. However, one month after

the elections, the Communists were forced to resign when the government was faced with a general strike.

The Communists' power was definitively broken. A new government, that included the Democrats, was not able to keep order because of the disagreement among the coalition parties. Under these circumstances, the ideas of democracy were confused with that of anarchy. The Communists tried to amplify this confusion, by tarnishing the image of democracy.

In this atmosphere, Parliament was forced to pass the Democratic minority's land privatization program. Land privatization began in September 1991. Each village was given land that was divided into relatively equal plots for every family.

The process of the disintegration of the collective farms was very rapid and dramatic. Farmers virtually destroyed almost every building that belonged to collective farms. The privatization of most of Albania's agricultural land had been completed by the Spring of 1992.

While new private farmers were engaged in dividing the land, they found themselves helpless in the new situation where no one was taking the responsibility for supplying agricultural inputs or services. As a result, a part of the agricultural land remained idle. At the same time, most industrial state firms interrupted their production because of the lack of raw materials and spare parts. Under these conditions, the Albanian people survived only because of western food aid.

State-run farms, which owned around 24% of the land (USDA), were the only relatively successful firms during 1991. The large farms were divided into smaller and more manageable units. When product prices were freed, these farmers found themselves in a better position than before. However, considering the overall situation, they had many

difficulties in securing their supplies and in protecting their production from food riots, sometimes generated by communist managers themselves.

In March 1992, freely held general elections, overseen by independent outside observers, realized true political change. The Democratic Party, winning 66 percent of the parliamentary seats, scored a large victory over the Socialist (former Communist) Party, which received only 27 percent. The Communist President, Ramiz Alia, resigned, and Sali Berisha, the leader of the Democrats, was elected as the President of Albania. The Democrat, Aleksander Meksi, was nominated as Prime Minister of the new coalition government. The cabinet of 19 members was entirely Democrat except for one Social Democrat and one Republican minister.

After the Democrats' victory, public order in urban and rural areas appeared to be far better than during the transition period. Albania's populace now had some hope that the economic situation would improve if the Democrats fulfilled their campaign promises.

II.4 The Economic Transformation

When the Democrats came into power, the economy of Albania was in the midst of a deep crisis. Output fell by 27 percent (in real terms) in 1991 and 9.7 percent in 1992. Inflation jumped 36 and 226 percent respectively in 1991 and 1992. A budget deficit of 45 percent of GDP in 1991, collapsing exports, and massive short-term external debts were all indicators of the prevailing economic collapse (EIU).

The international community responded swiftly; first by providing food aid, and then by financing urgently needed imports to jump-start the economy. Donors who had been providing assistance to Albania, including the World Bank, International Monetary Fund (IMF), European Union, and the United States, worked with the government to prepare economic recovery programs and projects, including technical assistance.

Incorporated in these programs was the main goal of the Democratic Party: transforming the rigidly centrally planned Albanian economy into a market economy. The privatization of collective farm land was the first step taken while the Democratic Party was not yet in power. The privatization of government-run farms and small enterprises started immediately after the new government was sworn in. Prices of all goods and services, except for bread, kerosene, electricity, public transportation, and telecommunications, were liberalized. Parliament passed a number of laws that would serve as the legal infrastructure of the new market economy. Meanwhile, some donor-financed projects were started. They aimed at improving the primitive physical infrastructure inherited from the old communist regime.

By the end of 1994, Albania completed the first phase of privatization. As envisaged in the strategy of privatization suggested by the July 1992 Group of 24's meeting held in Tirana, small and medium-size companies from food, trade, and the light industry sectors were sold at auction to the highest bidder. The state farms were also privatized by simply dividing the land among their workers. By the end of 1994, the number of small private farms was around 420,000. In 1994, the private farms, and almost 28,000 private non-farm small businesses, generated more than 60 percent of GDP (Shabani).

In 1995, the second phase of privatization started. An investment voucher scheme was used to privatize larger than medium size companies (with a book value greater than $800,000). Free investment vouchers were issued to urban citizens older than 18, who in turn could use these vouchers to buy shares of the companies which where put up for privatization. Indeed, most of the people sold their vouchers at around 20 percent of face value to local investors. The subsequent concentration of these vouchers seems to have expedited the privatization of state companies.

In the summer of 1996, the second phase of the privatization program was completed. In the first quarter of 1996, 75 percent of GDP was generated in the private sector (EIU). Meanwhile, the privatization program was aiming at privatizing large

strategic companies like Electric Albanian Corporation, AlbPetrol, AlbCopper, AlbKrom, Albanian Telecom, and so forth.

In the fall of 1996, AlbPetrol, the Albanian Oil Company, found a strategic partner. It reached an agreement with a US company, Fountain Oil, for the redevelopment of the Gorisht-Kocul oil field in southwestern Albania for a 25-year period. An investment of $20 million is planned, with both partners having an equal share in the project. The project is managed by Fountain Oil's Norwegian subsidiary. Fountain Oil has agreed to assist AlbPetrol to raise the money for its 50 percent share of the venture, either by securing third party financing from, for example, the European Bank for Reconstruction and Development (ERBD) or by financing the investment itself and recovering the cost through production profits (EIU).

A private investment fund, the Anglo-Adriatic Investment Fund (AAIF), was established recently by London-based Ganley International, with a 10 percent stake being taken by the US-based Rothschild Emerging Markets Fund. AAIF's goal is to raise about $350 million dollars to be invested in Albania's privatization program. Once it has acquired adequate funds, and attracted foreign investors, the fund expects to invest in such areas as telecommunications, tourism, railway construction, mines, transport and construction (EIU).

Meanwhile, the Albanian government is being pressured by the IMF and the World Bank to privatize the Commercial National Bank, the Savings Bank, and the Bank for Agricultural Development. By the end of 1997, the banking sector is expected to be fully privatized and expanded with new private banks starting operations.

II.5 The Economic Recovery and Forces behind It

Albania has had the fastest-growing economy in Europe since 1993. It had a real GDP growth of 11 percent in 1993, 7.4 percent in 1994, and 11 percent in 1995 as opposed to Eastern Europe's growth of -7.5 percent, 3.9 percent, and 5.2 percent, over the same period. The high growth rates were achieved while lowering inflation from 226 percent in 1992 to 6 percent in 1995 (EIU).

Agriculture has been the leading sector in fueling the sustained high economic growth rate. Industrial output only posted a positive growth rate (5.5 percent) in 1995. Other fast growing sectors have been services, and construction. These sectors are not as important as agriculture in terms of their share in GDP. In 1994, agriculture generated 55.5 percent of GDP, while services and construction generated only 19.1 percent and 9.5 percent, respectively (EIU).

No rigorous studies about forces behind the Albanian economy's spectacular growth rates exist. However, many analysts believe that the privatization of agriculture, and most services, and liberalization of trade have had the greatest impact on the Albanian economy. In four years, Albania has become a country that exports food and live animals, and where everything, from high tech consumer electronics to food delicacies, can be found in thousands of private stores and hundreds of open air markets.

The privatization of the economy and liberalization of trade would not have been so successful, however, if the private sector had not been financed by the steady flow of remittances from Albanians working abroad, especially in Greece and Italy. Analysts estimate that the total remittances are somewhere between $300 million and $600 million annually. Part of that money has been spent by farmers to buy agricultural inputs. Another part has been borrowed in the informal financial market by trade companies and individual traders to finance their import activities. Some funds have also been used to buy state enterprises and to start new private enterprises. Additional funds have been used to build new homes and to buy consumer goods. The remaining remittances have been deposited in state banks, which, in turn, invest their deposits primarily in government bonds.

Another significant source of financing for the private sector has been the illegal flow of oil through Albania to Montenegro and Serbia during the Bosnian war. With the end of UN imposed embargo against former Yugoslavia, the influx of dollars dried up, resulting in a significant depreciation of the lek (Albanian currency) from the exchange rate of Lk84:$1 achieved during 1995 to Lk120:$1 on May 16, 1996 (EIU).

A major factor that has stimulated the Albanian economy's growth has also been the aid from international financial institutions and major industrialized countries. This aid has been the main external source of financing for the public sector. It is estimated that Albania has received about $1 billion in aid and soft loans since 1991 (Gega).

The aid from international financial institutions and major industrialized countries has been crucial to Albania's success for the following reasons. First, it was the food aid from the European Union, the United States, and especially Italy that prevented widespread famine during the winter of 1991/92. Some 800,000 people were unemployed and farmers could barely survive with their poor harvests from the turbulent year of political transition.

Second, financing from the IMF, World Bank, and the EBRD restored the creditworthiness of the Albanian government. This creditworthiness was badly damaged by the Communists. They had defaulted in paying back short-term loans to private foreign banks.

Finally, as a result of some infrastructure projects undertaken by the Albanian government, with the financial support from foreign countries and international institutions, ports, roads, railways, the telephone network, the electric distribution system, were improved and/or expanded.

Albania's first four-lane highway, connecting the capital with Port City of Durres is expected to be completed by the end of 1997. A soft loan from the German government has

financed the rehabilitation of Albania's only commercial airport and the project is expected to be completed by the end of 1998. Backed by the Japanese and Swiss governments, the rehabilitation of major powerhouses is expected to be completed by the end of 1998. Financing was also secured for two major highways, one East-West, connecting the port of Durres with Macedonia, and the other north- south, connecting Montenegro with Greece.

The performance of state agencies and local government is also improved compared to 1991, when total anarchy reigned in Albania. As McDowell points out, the functioning of institutions in Albania is still far from being comparable to western standards, but improvements in the last four years are somewhat encouraging.

II.6 Albanian Agriculture in the 1990s

Since the privatization of collective farms in 1991-1992, which was followed by the privatization of state farms in 1992-1993, agricultural output has been rising and is forecasted to continue to increase. As Table II.3 indicates, agricultural output grew by 13.4 percent in 1992, by 14 percent in 1993, by 6.8 percent in 1994, and by 13 percent in 1995. It is estimated that agricultural production has risen by 10 percent in 1996 and is forecasted to grow by 8 percent in 1997 (EIU).

As mentioned in section II.4, the privatization of collective and state farms resulted in the creation of 420,000 small private farms with an average size of about 1.2 hectares, often subdivided into two or three separate smaller plots. The new small farm sector faced serious challenges during the first year of the reform. Input supplies and marketing channels were very limited, as most of the state enterprises that managed input and output distribution were barely functional. A natural consequence of these dramatic changes in the agricultural sector was that the 1992 cropping pattern was oriented toward meeting family needs as newly established private farmers sought to protect their food security after the breakdown of the old agricultural system. The majority of farmers were unwilling to specialize or grow agroindustrial crops that require marketing. As a result, in 1992,

approximately 90 percent of cultivated land was allocated toward food crops or livestock feed (World Bank).

Farmers concentrated on crops that were easily consumed, processed and stored on the farms and whose prices were liberalized, such as beans, potatoes, and vegetables. Most industrial crops required off-farm processing that became difficult and uncertain with the breakdown of agroindustrial state enterprises.

The decline in output and increasing subsistence orientation cut the deliveries to official marketing channels. Wheat, meat, and milk flows through public processing and distribution channels were 70-80 percent lower in the second half of 1991 compared to 1990. Similarly, in 1992 very few private farmers sold their wheat to the official collection centers (Grumbullimis), as they kept the majority of the harvest for household bread production; only 5 percent of private farmer wheat production was delivered to Grumbullimis (World Bank).

Early liberalization of vegetable prices - in 1991, compared to 1992 for milk and meat products - and the relative ease of vegetable marketing (no packaging, small quantities) helped private open-air vegetable markets supplying urban areas to develop rapidly. At the same time, urban areas remained largely unsupplied with fresh meat and milk products, which were almost entirely retained by private farmers. As a result, urban areas depended upon food aid, especially for wheat and livestock products.

Knowing that food aid could not last forever, the Democratic Government moved swiftly to promote a quick supply response to land privatization. Legislation was adopted to free retail, wholesale, and producer prices for all agricultural commodities except wheat. The floating of the lek was accompanied by a full liberalization of imports. Export by private traders was allowed, but export licensing requirements were put in effect for some agricultural products to avoid diversion of food aid.

The steps necessary to move prices to levels consistent with economic incentives reduced real income in almost all strata of the population, and the Government took measures to moderate the social cost of adjustment. Subsidizing food shipments of wheat or flour, sugar, vegetable oil, and rice provided the safety net. That broad-based safety net benefited the entire population, regardless of income level.

Another move of the government, intended to boost the supply response, was the decision to privatize all Stations of Machines and Tractors (SMT). During the communist regime SMTs provided mechanized services to collective farms, charging fees that were set by the government. In the confusion of 1991-92, they operated in a state of anarchy, with operators and drivers being semi-independent. The government started SMT privatization by selling all machines, trucks, and tractors to their employees in the summer of 1992. By the end of 1992 the SMT privatization was completed. In addition, with soft loans from Greece and Germany, the government purchased new tractors and sold them at subsidized prices to private operators.

The Government of Albania also understood the need to transform the domestic fertilizer production and distribution system from a command system to an open market-based system, fully integrated into the global market. The United States, through USAID, worked closely with the Albanian Government and other donors to facilitate that transition. Recognizing the fertilizer shortages that Albania faced in the fall of 1992, USAID provided 20,000 tons of fertilizer and 30 trucks to meet emergency needs (IFDC). By providing fertilizer to Albanian farmers on an emergency basis, an essential and critical objective of helping to improve domestic production was realized

Table II.3 Agricultural Production and Patterns of Ownership

	1990	1991	1992	1993	1994	1995
Agricultural output	(In millions of lek at constant 1992 prices)					
	45,042	33,220	37,644	42,955	45,876	51,840
Crop production	25,189	15,089	17,871	21,386	22,736	26,051
Fruits	2,844	2,139	2,679	3,194	3,203	3,207
Livestock	16,131	15,114	16,216	17,489	19,047	21,692
Forestry	878	878	878	886	890	890
Agricultural output	(Share of total output at constant 1992 prices)					
	100	100	100	100	100	100
State farms	30	22	9	5	-	-
Collectives	60	-	-	-	-	-
Private	10	78	91	95	100	100

Source: Ministry of Agriculture and Food

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The USAID program, implemented by the International Fertilizer Development Center (IFDC), helped to establish a network of private fertilizer dealers. In order to achieve this objective, the fertilizer shipments were divided into small lots of 50 tons each and sold at public auctions. The Government of Albania assisted IFDC in reporting the auction results and the addresses of businesses that had purchased fertilizer on a regular basis on radio and television. The buyers of the fertilizer at the auction were free to set retail prices to reflect their costs and the local demand conditions.

The international community also helped to stimulate agricultural production by financing the partial rehabilitation of Albania's irrigation system. About 60 percent of Albania's arable land (423,000 ha) was equipped with irrigation. However, most of the systems were damaged and their functioning was impossible without repairs and continued maintenance. Between 1990 and 1993, the irrigated area decreased from 60 percent to about 11 percent (World Bank). The World Bank's Critical Imports Project provided short-term financial support for emergency repairs of major canals. As a result of that support, around 21 percent of the total area planted was irrigated at least once during the 1993-94 season (MOAF)..

An agricultural extension service was developed to disseminate technical information. The Department of Extension Service was created in the Ministry of Agriculture and Food with technical assistance from the EU. In 1993, only 6 out of 36 districts were covered by the extension service. It was expanded to 14 districts in 1994, and covered all of Albania in 1995. Extension has offered three basic services: (1) training of farmers to broaden their expertise beyond their specialty to areas such as business management, economics, and wider technological aspects of agriculture; (2) support for the formation of private farmers associations; and (3) training of farmers in general through the use of seminars, and crop and animal demonstrations (Ylli).

In order to make the supply response package more effective, the Albanian government decided to continue subsidies for the Bank for Agricultural Development (BAD), while letting other state banks operate on a commercial basis. By design, BAD was the main source of finance for the rural sector in the first years of the reform. BAD had the freedom to set its interest rates, and only operating costs were subsidized. Funds were mobilized by BAD from its own resources, by borrowing from deposits with the Savings Bank, and from the national budget. It also was serving as a conduit for EU, World Bank, USAID and other donor programs.

The main goal of BAD was to provide seasonal credit. This was perceived as the immediate constraint to production and, in particular, to financing inputs provided by international donors to generate an agricultural supply response. Unfortunately although $120 million dollars in working capital was needed for the 1992-93 season, as estimated by a World Bank and EU team (World Bank), BAD could provide only $15 million. Remittances from family members working outside of the country filled part of the gap.

On the demand side, the privatization of state trading and food processing companies was expected to increase the demand for domestic food, as opposed to imported food, due to expected quality improvements. The state retail companies that used to handle fruits and vegetables were all privatized by the end of 1992. Basically, their assets were sold to employees at favorable prices. In 1993, small food processing plants followed suit. Meanwhile, different donors provided credit for technology improvements in the old plants, and for new plants built by private businesses.

By the end of 1994, almost all of food processing enterprises were privatized by selling them at auction. Preference was given to former owners of the land where the plants were built. New foods processing plants financed by remittances of Albanians working abroad or by donor provided credit were also built. By the end of 1994, 1,230 small and medium size private food processing companies were providing flour, bread, meat and dairy products, canned fruit and vegetables, beverages, and so forth (Shabani).

The World Bank initiated a pilot program in 1993 to improve roads and the telephone network in the most remote northeastern rural areas. In order to increase the accessibility to markets, in 1994, the World Bank program was extended to less remote areas, with financing provided by other international donors. A boom in the import of second-hand trucks from Italy and Greece accompanied the road improvement. Exempting used trucks from tariffs until summer of 1994 stimulated these imports. By that time, almost every village was provided with transportation services by at least one or two private truckers.

As a result of the increase in agricultural production and market accessibility, farmers in 1994 sold around 46 percent of their livestock products, 38 percent of fruits and vegetables, 41 percent of potatoes, 15 percent of white beans, and 13 percent of wheat in 1994 (MOAF). Processed food, beverages and live animals comprised 14.3 percent of total exports in 1994 (EIU).

Market accessibility also increased purchases of agricultural inputs. By 1994, the private fertilizer dealer network established by IFDC was developed into a full-fledged agricultural input traders network. In addition to fertilizers, this network provided seeds, chemicals, veterinary supplies, parts for tractors and machines, and so forth. In 1994, farmers spent 21 percent more than in 1992 (in real terms) to purchase agricultural inputs (Shabani).

By the end of 1994, the medium-term objectives of the government for the agricultural sector were achieved. Agricultural production had reached the pre-revolution levels, the country was no longer dependent on food aid, the agriculture and food industry were privatized, and the basic market conditions for the functioning of economy were created.

Bread was the last food controlled by the Government. Bread prices were liberalized in the spring of 1996. That change in policy opened the wheat and flour markets to imports, previously discouraged by State Reserves, supplying wheat at subsidized prices.

The long-term objectives of the Government include the modernization of rural infrastructure, the full rehabilitation of irrigation systems, and the creation of a capitalistic land market. While the first two objectives will require huge financial resources, which might be available if the growth of the economy continues, and the government puts more efforts in eliminating widespread tax evasion, the last one represents a formidable task because of the political intricacies related to it.

Albania and Greece are the only European countries that have no official land records (Daily Telegraph). Although the privatization of land in Albania is physically and legally completed, there are still disputes and uncertainties surrounding it. The source of these disputes and uncertainties is the former landowners' claim that the land privatization program is violating their property rights. Parliament passed a law in 1993 to compensate landowners that had received none or only part of the land that was in their legal property before the Communists came into power. However, the disputes are far from being resolved.

Most of the former owners are not satisfied with the size and the form of compensation. According to the aforementioned law, the former owners (or their heirs) would receive full compensation for the first 10 hectares, 10 percent compensation between 100 and 1,200 hectares, and no compensation above 1,200 hectares. With respect to the form of compensation, the former owners (or their heirs) would receive privatization vouchers, which could be used in the second phase of the privatization program. The claim of former owners was that they would end up owning shares of companies with a market value much less than the value of the land formerly owned by their family.

After a number of protests from former owners, which culminated with a hunger strike in 1995, the Government offered an alternative form of compensation; namely: plots of land along the Adriatic shore which used to be state property before Communists came into power. While this plan theoretically sounds very promising, practically is very unlikely to be implemented. The fragmentation of those beach stretches would discourage strategic foreign investors, who are already studying the possibility of building beach resorts along the Adriatic shore. Discouraging foreign investment would be a major setback for the Albanian economy. Tourism is perceived by many domestic and foreign analysts to be the sector that would provide the necessary inflow of hard currency to replace the emigrant remittances, which eventually will diminish.

Actually, according to Galica, former owners have not yet received any plot of land along the Adriatic shore. Meanwhile, only 18 percent of them had accepted privatization vouchers as of July 1996. The rest insist on either a reasonable monetary compensation or the return of their former land. Because of budgetary constraints, the first alternative seems unrealistic in the near future.

Promising to return land to former owners would be political suicide for any serious political party. Such a move would make current holders very unhappy. However, since most of the former owners were politically persecuted during the Communist regime, all serious political parties try to be sympathetic to this group, as a gesture of their commitment to democratic principles. It is for this reason, and because former owners have been very active and organized, that they have had a strong influence on the politics of land ownership.

Indeed, the main reason for delaying the passage of the law that permitted agricultural land sales until 1996 was the political pressure from former landowners. Reflecting this pressure, the 1996 law places some restrictions on land sales and does not allow for the development of a full-fledged free land market. According to the law, a farmer can sell his land only with the consent of his neighbors and relatives. Implicitly, this

restriction recognizes the reality that farmers can rarely sell their land without first compensating former owners. This is because, as McDowell points out, law enforcement in Albania is far from satisfactory, meaning that Albanian citizens often take matters into their own hands.

CHAPTER III

SELECTION OF THE THEORETICAL MODEL

III.1 Introduction

The purpose of this chapter is to examine the theoretical issues that encompass the major focus of this research. Salient features of models customarily employed to assess the impacts of different economic policies on agricultural production are briefly reviewed and then a framework for the analysis and estimation of parameters of farmers' response to government policies is discussed.

III.2 A Review of Models Used in Applied Economics

Several models are available to assess the impacts of government policies on the economy. The most complete are general equilibrium models, which try to mimic the functioning of the whole economy. These models provide the analyst with a full range of policy impacts on producers, consumers, and the government. A problem with applied general equilibrium models is that they require a very extensive database and become large if a relatively high level of disaggregation is needed. Therefore, sectoral models are often used instead.

In the sectoral models, the linkages of the sector being analyzed with the rest of economy and foreign markets are not endogenized. Thus, only the responses to exogenous changes in the economic environment are estimated through these models. Applied sectoral models for the agricultural sector can be divided into two categories: household models and firm models. In household models, farms are considered as households, whose objective is to maximize utility. In firm models farms are considered as firms, whose objective is to maximize profits.

III.3 Applied General Equilibrium Models

General equilibrium models have been developed to model situations where many agents independently maximize their utility functions and jointly, but inadvertently, determine an outcome that can be affected only indirectly by policy makers. These models incorporate links among several production sectors and consumers (Shoven and Whalley). In most economy-wide models, the production technology is described by a production function that allows smooth substitution among inputs. It is generally argued that "for most purposes in economy-wide modeling, the use of CES production functions with realistic substitution elasticities will capture most of interactions one wants to analyze" (Dervis et al., p.193). Of course, given the necessity of aggregating sectors into a relatively small number, production functions are only crude representations of actual production processes.

Typically, general equilibrium models solve a system of simultaneous equations, finding a set of prices and factor returns that equilibrate all markets. Numerous examples appear in the economic literature. In tax policy, the models of the United States by Fullerton, Shoven, and Whalley; and of the United Kingdom by Piggott and Whalley have been used in a range of tax change evaluations. In trade policy, models by Miller and

Spencer, Boadway and Treddenick, and Brown and Whalley have been applied to evaluation of changes in tariff policies. In development, Adelman and Robinson, Dervis and Robinson, De Melo, and others have studied alternative policy strategies for South Korea, Turkey, Columbia, and other countries.

Stoeckel's five-sector model of the Australian economy is a typical example of an agriculturally focused model. He assumed competitive conditions to ensure full employment of factors of production, labor and capital. Prices adjust to maintain market equilibrium.

The predominant tradition in applied general equilibrium modeling does not employ econometric methods. This tradition originated with the seminal work of Leontief, beginning with the implementation of the static input-output model more than half a century ago. Leontief gave further impetus to the development of general equilibrium modeling by introducing a dynamic input-output model. Empirical work associated with input-output analysis is based on estimating the unknown parameters of a general equilibrium model from a single interindustry transaction table.

The usefulness of the "fixed-coefficients" assumption that underlies input-output analysis is hardly subject to dispute. By linearizing technology and preferences it is possible to solve the two fundamental problems that arise in the practical implementation of general equilibrium models. First, the resulting general equilibrium model can be solved as a system of linear equations with constant coefficients. Second, the unknown parameters describing technology and preferences can be estimated from a single data point. The problem with input-output models is that their "fixed-coefficients" assumption is very unrealistic.

Johansen was the first to successfully use an applied general equilibrium model without the fixed-coefficient assumption of input-output analysis. Johansen retained the fixed-coefficients assumption in modeling demands for intermediate goods, but employed

linear-logarithmic or Cobb-Douglas production functions in modeling the substitution between capital and labor services and technical change. He replaced the fixed-coefficients assumption for household behavior by a system of demand functions estimated by Frisch.

Linear-logarithmic production functions imply that relative shares of inputs in the value of output are fixed, so that the unknown parameters characterizing substitution between capital and labor inputs can be estimated from a single data point.

In describing producer behavior, Johansen employed econometric methods only to estimate constant rates of technical change. Similarly, the unknown parameters of the demand system proposed by Frisch can be determined from a single data point. Only one parameter must be estimated econometrically.

The essential features of Johansen's approach have been preserved in the applied general equilibrium models mentioned above. The unknown parameters describing technology and preferences in these models are determined by "calibration" to a single data point. Data from a single interindustry transaction table are supplemented by a small number of parameters estimated econometrically. Modifications to existing policies are expected to change relative prices in the economy. Comparisons may be made between a factual equilibrium, which is based on current policies, and a hypothetical equilibrium that reflects a changed policy regime.

The central characteristic of these models is the price-endogenous equilibrium framework. It involves separate specification of equation systems representing the demand and production sides of the economy. In equilibrium all behavior is consistent with prices. Consumers maximize utility, producers maximize profits, and market demands equal market supplies. Policy evaluations proceed by comparing a "benchmark" equilibrium under existing policies to a new equilibrium under new policies. The benchmark equilibrium is assumed to be reflected in observable behavior. A equilibrium

data set is constructed using national accounts (and other data sources) to make the comparison possible and provide a data base for model calibration.

The most common specification in this type of modeling involves CES demand and production functions. A major difference in these models, from the more conventional input-output analysis, is that they explicitly incorporate substitutability on both the demand and production sides of the model. The widespread choice of CES functions, as opposed to more complicated functions, reflects a tradeoff that model builders face between tractability and accurateness

As noted above, for the selection of parameter values, these models employ procedures that are loosely described as "calibration." Demand and production function parameter values are chosen so that the model exactly reproduces an assembled equilibrium data set, given existing policy constraints. The observed equilibrium represents a benchmark equilibrium data set.

In counter factual equilibrium analysis, the numerical analog of traditional comparative statics, the assumption of an observable equilibrium leads directly to the construction of a data set that fulfills the equilibrium conditions for some form of general equilibrium model. A natural accounting framework, consistent with the general equilibrium model, records transactions occurring in the separate markets that comprise the economy. A benchmark equilibrium data set is a collection of data that satisfy equilibrium conditions.

The information presented in most national accounts is a by-product of the process of assembly of macroeconomic aggregates, therefore these estimates do not aim at consistency in the various areas of detail that general equilibrium analysis requires. The equilibrium conditions required by most of the constructed benchmark equilibrium data sets are not all satisfied in intermediate transactions accounts and other data published by agencies that produce national accounts data. In input-output data, sector

budget conditions are not explicit, nor is the external balance condition satisfied. Demand-supply equalities by commodity do not appear in national account data. Household expenditure data are usually inconsistent with production-side data (Shoven and Whalley).

Most benchmark data sets rely heavily on the row and column sum (RAS) adjustment method (Bacharach). This method guesses at the elements of an initial matrix, where given row and column constraints must be met, and then adjusts it to be consistent with factual data. Examples of areas where this technique is applied include cases where households' demands for individual products do not equal the supplies of firms, where industry costs are not equal to sales (after modifications to published intermediate transaction accounts), and where household incomes do not equal expenditures.

From the above discussion, it can be concluded that the calibration approach, as a method for selecting parameter values, appears to have many weaknesses. First, it relies heavily on questionable and perhaps incorrect data sets. This is a real problem especially in the case of developing countries. Second, it requires a pre-selection of elasticities. Third, highly restrictive assumptions about technology and preferences are required in order to make calibration feasible. Finally, it does not provide any basis for a test of the model's specification since, by definition, it fits the predefined single data point.

To implement models of producer and consumer behavior that are less restrictive than those of Johansen, it is essential to employ econometric methods. On the production side, an alternative econometric approach to "calibration" generates complete systems of demand functions for inputs in each sector. Each system estimates quantities of inputs demanded as functions of prices and output. This approach to modeling producer behavior was first implemented by Berndt and Jorgenson.

Econometric models of producer behavior require large data basis. The models require the construction of a consistent time series of interindustry transaction tables. By comparison, the non-econometric approaches of Leontief and Johansen require only a single interindustry transaction table.

Similarly, econometric models of consumer behavior can be employed in applied general equilibrium models. Econometric models stemming from the seminal work of Wold consist of complete systems of demand functions representing quantities demanded as functions of prices and total expenditure. A possible approach to incorporating the restrictions implied by the theory of consumer behavior is to treat aggregate demand functions as if a single representative consumer generated them.

An alternative approach to the construction of econometric models of aggregate consumer behavior is provided by Lau's theory of exact aggregation (Lau, 1982). Lau's systems of aggregate demand functions depend on statistics of the joint distribution of individual total expenditures and attributes of individuals associated with differences in preferences. One of the most remarkable features of models based on exact aggregation is that systems of demand functions for individuals can be recovered uniquely from the system of aggregate demand functions. This recovery makes it possible to exploit all of the implications of the economic theory of the individual consumer in constructing an econometric model of aggregate consumer behavior.

Jorgenson, Lau, and Stoker were the first to apply an econometric model of aggregate consumer behavior, based on the theory of exact aggregation. Their approach requires time series data on prices and aggregate quantities consumed, cross-sectional data on individual quantities consumed, individual total expenditures, and the demographic characteristics of individual households. By comparison, the non-econometric approaches of Leontief and Johansen require only a single data point for prices and aggregate quantities consumed.

In choosing an approach to evaluate the effects of policy changes on Albanian agriculture, considerable thought was given to developing a general equilibrium model. However, a sectoral model was choosen for several reasons. First, it is impossible to find the time series data that are required for less restrictive econometric models. Even for input-output and calibration models, it is very difficult to construct a reliable interindustry transaction table and almost impossible to obtain data on the consumption side.

Second, some of the assumptions made in general equilibrium models are very unrealistic for Albania, especially given the absence of a free and unimpeded land market and the adjustment lags in the labor market. These factors could be taken into account by imposing additional constraints on the model. However, given the detail necessary to address the issues discussed previously, the model developed would quickly become very hard to manipulate and would be very demanding in terms of data.

Finally, given the openness of Albanian markets to the rest of the world, and the very small size of the Albanian economy, it can be assumed that agricultural output and input prices are exogenously determined. This assumption allows the use of sectoral models, which, compared to general equilibrium models, provide a more detailed analysis of agricultural production.

III.4 Sectoral Models

As indicated above, applied sectoral models for the agricultural sector can be divided into two categories: household models and firm models. For household models, farms are considered as households whose objective is to maximize their utility. For firm models, farms are considered as firms whose objective is to maximize profits. A discussion on agricultural household models follows.

III.4.1 Household Models

The basic assumption underlying household models is that the households maximize their utility subject to their constraints, namely, the production-function and the full-income constraint. The utility function is assumed to be well behaved: quasi-concave with positive partial derivatives. The arguments of the utility function are household consumption of *n* commodities and total leisure time. Household characteristics, such as the number of members, can be introduced into the utility function separately. As long as these characteristics are viewed as fixed, this does not alter the analysis.

Utility is maximized subject to a budget constraint, which requires that the household's total income equal the value of the commodities it consumes, plus the value of its leisure time. The full income of an agricultural household is comprised of its time endowment, plus the value of the household's production less the value of variable inputs required for production of outputs, plus any non-wage, non-household production income. Labor is considered a variable input and no distinction is normally made between family and hired labor.

Outputs and inputs are related by an implicit production function that allows for separate production functions for different outputs, or for joint production. The implicit production function is assumed to satisfy the usual properties for production functions: it is quasi-convex, increasing in outputs and decreasing in inputs.

If the household maximizes utility subject to its full-income and production-function constraints and to prices being fixed, then the household's choices can be modeled as recursive decisions, even though the decisions are simultaneous in time (Nakajima). The household is assumed to behave as though it maximizes revenue subject to its production-function constraint, and then maximizes utility subject to its full-income constraint. Since neither the value of endowed time nor exogenous income are household choice variables, maximizing full income is equivalent to maximizing the value of outputs less variable inputs (that is, profits).

Given a recursive model, a set of output-supply and variable-input functions, and a set of commodity-demand equations including leisure or labor supply, can be derived from the household's equilibrium. The output supplies and input demands are functions of input and output prices and farm resource endowments. They are derived from a profit function that obeys the theory of the firm constraints: homogeneity of degree one in prices, and convexity with respect to prices. The commodity demands are functions of commodity prices, full income, and possibly household characteristics. When full income is held constant, these demands satisfy the usual constraints of demand theory: adding up of total expenditure; zero homogeneity with respect to prices and exogenous income; and symmetry and negative semidefiniteness of the Slutsky-substitution matrix. These conditions are very helpful if estimation is to be carried out via econometric methods.

If, for a given household, the errors on the input-demand and output-supply equations are uncorrelated with the errors on the commodity-demand equations, the entire system of equations is statistically block recursive. In this event, profits will be uncorrelated with the commodity-demand disturbances. Thus, the latter equations may be consistently estimated as a system independent from the output-supply and input-demand equations. The practical advantage of estimating the demand and production sides of the model separately is that far fewer parameters need to be estimated for each. Consequently, models with greater detail can be estimated.

Strauss shows that a sufficient condition for recursiveness is that all markets exist and that prices are given to households. If even one market does not exist, then recursiveness from production to consumption breaks down. Non-recursive models are constructed in this case. A discussion on models with absent agricultural labor markets follows since they are pertinent to Albanian agriculture.

In the historical development of agricultural household models, autarkic behavior has been very important. One of the earliest models can be traced to the Russian

economist A.V. Chayanov (Millar). Chayanov was concerned with explaining the allocation of labor between work and leisure in Russian peasant households, given his observation that virtually no hired labor was used in farm production activities. He recognized that such households were not simply maximizing profits. Rather, they had a subjective equilibrium in which they equated the marginal utility of household consumption with the marginal utility of leisure.

His analysis was elaborated on by a group of Japanese economists during the 1950s and 1960s. Nakajima exposed the model to English-speaking economists. In addition to developing a mathematical formulation of Chayanov's model; he also proposed other models of semi-subsistence family farms. Similar models of peasant households were advanced by Mellor, by Sen, and by Fisk and Shand. Recently, Innes proposed a dynamic model of two-season subsistence farming. These models are special cases of the general form of agricultural household models presented above.

Models, in which the family supplied all of the labor were used to explore the effects on labor supply (and hence output) of changes in different variables. The effect of output price was of particular interest because of the possibility that household output might respond negatively to output price. This could occur if the income effect, resulting in more leisure demand, was large enough. Nakajima showed that an exogenous increase in land input reduced output, because it had an income effect on leisure. Further, Sen showed that there could be no output response to the withdrawal of family workers, if the remaining family members worked sufficiently hard to offset the number of hours withdrawn.

The typical structure of semi-subsistence household models without labor markets is similar to that of classic household models with the distinction that the former are non-recursive. Following the notation of Nakajima, the utility function of a semi-subsistence agricultural household that uses only family labor and produces two commodities may be specified as:

(3.1) $U = U(A,X1,X2,M)$

where:

A - the family labor utilized;

X1 - the portion of product one consumed by the household (or the "income in kind" from product one);

X2 - the portion of product two consumed by the household (or the "income in kind" from product two); and

M - the cash income from the portion of products sold (remittances and other asset incomes are excluded for simplicity).

Regarding this utility function, we shall assume only that its first derivatives are all positive except for the derivative with respect to labor.

The farm family's income is:

(3.3) $M + P1*X1 + P2*X2 = P1*F(A1,B1) + P2*G(A2,B2)$

where:

A1 and A2 - labor used respectively for the production of product one and product two;

B1 and B2 - land used respectively for the production of product one and product two;

P1 and P2 - output prices; and

F(). and G(). - production functions respectively for product one and product two.

The equilibrium conditions are then:

(3.4) $P1*F_{A1} = P2*G_{A2}$

(3.5) $P2* G_{A2} = - Ua/Um$

(3.6) $P1*F_{A1} = - Ua/Um$

(3.7) $P1*F_{B1} = P2*G_{B2}$

(3.8) $U_{X1}/Um = P1$

(3.9) $U_{X2}/Um = P2$

Simultaneous equations (3.3) through (3.9) will determine the values of A1, A2, B1, B2, X1, X2, and M in equilibrium. Then, the equilibrium values of the outputs, F and G, the quantities to be sold, (F-X1) and (G-X2), and the total income (M + P1*X1 + P2*X2), will be determined.

Nakajima's model can be easily extended to include remittances and purchased inputs in the income equation and to have more than two farm products. The extended model can mathematically represent a typical Albanian farm. An advantage of this model is that it provides information both on the price elasticity of the total production and on the price elasticity of the marketed supply of subsistence crops. However, given the data available, it is impossible to empirically estimate a semi-subsistence farm model, No information is readily available on the work hours and purchased inputs utilized for each crop, or on substantial remittances from farm family members working abroad.

III.4.2 Firm models

In firm models, farms are considered as commercial firms. The basic assumption is that farmers maximize profits, subject to the technical constraints imposed by their physical production functions. Two approaches can be used to model agricultural production: the direct and the dual approach. In the direct approach, the production function must be specified in order to derive input demand and product supply functions. The dual approach requires the specifying a profit (or cost) function, from which input demand and output supply functions are derived, without *a priori* specifying the production function. The second approach is by far the most used in the literature in recent years. Lopez provides a good historical review of the development and use of duality theory.

It is important to note that all inputs usually are assumed to be in static equilibrium in duality applications. This is equivalent to assuming that all inputs instantaneously adjust to their equilibrium levels. This assumption does not seem appropriate in a study of agricultural supply response for a country like Albania. The lack of mobility of self-employed farm labor, the fixity of land and other factors of production, preclude full adjustment in the short-run. The long run is defined as the period after which full adjustment is attained. In the long run, all resources are variable.

To accommodate adjustment lags for some inputs, two alternative approaches have been suggested in the literature. First, the firm can be assumed to be in continuous dynamic equilibrium, rather than in static equilibrium. This approach uses dynamic programming and assumes that adjustment costs explain the short-run fixities exhibited by some inputs. Second, the firm can be assumed to be in static equilibrium with respect to a subset of inputs, conditional on the observed levels of the remaining inputs. This approach is referred as the variable profit function approach. The inputs that are in partial static equilibrium are called variable inputs, and the remaining inputs are designated as quasi-fixed. The theoretical foundations of both approaches can be found in McFadden and in Lau (1976).

Dynamic equilibrium assumptions are not appropriate for modeling Albanian agriculture simply because the adjustment costs do not explain the short-run fixities exhibited by factors of production (land and irrigation). Instead, it is the absence of a freely traded land market and government budget constraints, respectively, that determine the fixities of these factors.

The variable profit function approach does not require any assumption about the causes of short-run disequilibrium. This approach generates short- and long-run output supply and variable-input demand functions. Optimal levels of the quasi-fixed inputs, given other exogenous factors (prices, technology, and so forth) are also determined. Decision-making is assumed to be a two-stage phenomenon. In the first stage, the short

run, firms decide on the levels of outputs and variable inputs, given the levels of the quasi-fixed variables. In the second stage, the long run, the optimal levels of the quasi-fixed variables are determined. Since the variable profit function makes no assumption about the causes of quasi-fixity of some resources, it provides no information about the adjustment paths or timing of adjustment between the short run and the long run.

Variable profit function (variable cost function) studies start with the work of Lau and Yotopolos. They derive variable input demand and output supply functions from the variable profit function. However, they do not allow for quasi-fixed inputs and thus cannot distinguish between short- and long-run elasticities. In a more recent study, Grisley and Gitu explicitly formulated their problem as a variable cost model. Unfortunately, the unavailability of data constrained them to restrict their study to its short-run dimensions. For the same reason, this study will be restricted to a short-run supply response model of Albanian agriculture.

Several alternative techniques exist to estimate short-run supply. Each one has its merits and shortcomings (Askari and Cummings, Colman, Henneberry and Tweeten). In general, two broad types of techniques can be identified: mathematical programming and econometric estimation.

Mathematical programming models of the agricultural sector have been used widely by economists as tools to analyze direct and indirect effects of policy changes on that sector. All mathematical models represent certain optimization problems. Two levels of optimization can be identified in an agricultural sectoral model. The first deals with a government's objective function trying to maximize the effect of policy goals subject to budget constraints. However, the government cannot directly influence the way farmers will react to policy changes. Farmers try to maximize their objective function, based on external conditions. For example, their key objective may be profit maximization, subject to achieving some level of subsistence income, or minimizing risk.

In order to maximize the first objective function, subject to the second objective, multi-level programming is required. Unfortunately, there is currently no specific procedure to solve the problem satisfying both objectives jointly. An iterative process, using a vast amount of farm data, is required (Norton and Scheifer, Chancler). Difficulties in obtaining reliable results from multilevel studies have limited the extensive use of this approach. Instead, sector models that focus on describing how farmers optimize their objective function subject to market and policy constraints, have been used more frequently (McCarl; Hazell and Norton).

Early sectoral programming models tried to model only the supply side (Thorbecke). They assumed constant output prices and did not consider the effects of farmers' decisions on prices. These farm level models attempted to estimate how farmers would optimize their objective function, subject to resource limitations and external constraints. Profit maximization, or cost minimization, was often assumed to be the farmer's objective function. Product and input prices were included as parameters and the response of quantities produced to given prices was modeled. These models were simply linear programming models.

More advanced models, quadratic programming models, recognize the interrelationships among prices and quantities. Both supply and demand are introduced into the model and equilibrium price and quantity are obtained endogenously. The assumed objective is no longer profit maximization or other farm level objective, but the maximization of producer and consumer surplus (Hazell and Norton; McCarl). In these models, prices of agricultural products are determined jointly by the actions of consumers and producers.

The maximization of consumer and producer surplus will lead to equilibrium prices and quantities obtained for a purely competitive market. Samuelson first developed this notion as a static spatial equilibrium problem that could be solved using

mathematical programming. Takayama and Judge developed an algorithm to solve the spatial equilibrium model using quadratic programming.

Zaloshnja and Williams used a quadratic programming model for Albanian agriculture in 1992. They employed rough estimates of elasticities on the consumer demand side. At that time, almost all food imports consisted of food aid, thus making it easy to factor that part of supply into the model. Since 1994, food has been supplied almost entirely from farmers and private importers. Currently, given Albania's widespread tax evasion problem, it is very difficult to account for food imports, based on official figures. This is one of the reasons for not using a quadratic programming model in this study. Another reason is that quadratic models assume linear technologies. Obviously, their specifications can not be empirically tested. Linear programming models, being special cases of quadratic models, were discarded for the same reason.

In econometric estimation, a functional relationship characterizing the production situation is estimated. Supply and input demand elasticities are then derived. The appropriateness of this method, and the quality of results obtained, are determined by the time periods analyzed, the level of aggregation, the explanatory variables considered, and the quality of the data utilized. The agricultural short-run models that are estimated econometrically can be two-stage or one-stage models.

In two-stage models, the sequential nature of decision making is incorporated into the analysis (McGuirk and Mundlak). The area allocation decisions and the crop management decisions are assumed to take place at different stages. In the first stage, decisions are made on the allocation of area among different crops based on the information set available at the time of planting. Any subsequent changes in the information set influence the intensity of crop management. Thus, yields are determined in the second stage of the optimization problem. Separate identification of the optimization problem by the two stages permits specification of the optimal output as the product of the area and yield. This also permits their separate estimation.

The sequential nature of the decision process is implemented by including the area allocation decisions, determined at stage I, as state variables for stage II decisions. Thus, allocation area equations are estimated first. Areas allocated to each crop are functions of expected output and input prices, and levels of fixed factors. Yield equations are then estimated. Yields are a function of revised expected prices and area allocation. Assuming that the production function exhibits constant returns to scale, the supply equations can be specified and estimated as the product of area and yield functions.

This model was considered for this study because it is more realistic. It allows producers more flexibility to revise the intensity of crop management in response to changes in the price expectations after a crop has been planted. However, the absence of the detailed Albanian data on the use of inputs in different stages and respective prices in Albania was a major deterent. In addition, as McGuirk and Mundlak point out, the assumption of constant returns to scale may be appropriate with aggregated data but not with individual farm level data.

The one-stage models are classical short-run firm models. In these models farmers are assumed to make decisions about the level of use and the allocation of inputs at the onset of the season based on predictions about prices, given the level of their fixed inputs. This kind of model was selected to be used for estimating the supply response of Albanian farmers, given the data limitations that this study faced. The structure of the model is presented in the following section.

III.5 The Structure of the Theoretical Model

Each farm is considered as a production unit that can produce more than one output by using several inputs. Farmers are assumed to be profit maximizers. They produce the product mix that yields the highest returns to resource employed in

production, given output and variable input prices, and the level of fixed inputs. Consumption decisions are implicitly assumed to be separate from production decisions. Thus, the value of the products used for household consumption will be considered as part of the total revenue realized from production.

The farmer's production function is stated in implicit form as:

(3.8) $F(Y,X,L) = 0$

where:

Y - output vector;

X - variable input vector;

L - fixed input vector;

and (3.8) is assumed to possess continuous first- and second-order partial derivatives which are different from zero for all its non-trivial solutions. It is assumed that (3.8) is an increasing function of Y and a decreasing function of X and L. Finally, it is assumed that (3.8) is regular strictly quasi-convex over a relevant domain.

The farmer's short-run profit function is:

(3.9) $\Pi = Y*W_o - X*W_i$

where:

W_o - output price vector; and

W_i - variable input price vector

The farmer desires to maximize profit subject to the technical constraints imposed by the production function. The Lagrange function in this case will be:

(3.10) $J = Y*W_o - X*W_i + \lambda*F(Y,X,L)$

and first-order conditions:

$dJ/dw_i = - w_i + \lambda * F_i = 0 \qquad i = 1,...,m$

$dJ/dw_o = w_o + \lambda * F_o = 0 \qquad o = 1,...,n$

$dJ/d\lambda = F(Y,X,L) = 0$

where: F_o and F_i are respectively the partial derivatives with respect to the o-th output and the i-th variable input price.

By solving the first order conditions for X, ordinary input demand functions can be derived. Substituting X into (3.8) the vector Y can be expressed as a function of W and L. Finally substituting X and Y into (3.9) derive the indirect short-run profit function:

(3.11) $\Pi = G(W_o,W_i,L)$

Once a functional form is selected for (3.11), the supply and input demand functions can be derived using Hotelling's lemma. The use of the indirect profit function instead of the direct profit function eliminates the need to specify a functional form for the implicit production function, simplifying significantly the analytical derivations.

In the Albanian model, cows, draft animals, sheep, goats, fertilizers, mechanized services, seeds, and chemicals are variable inputs. Land, labor, fruit trees, and irrigation are assumed to be fixed inputs. Obviously, the assumption that farmer's family labor will remain constant during the season is problematic.

Because of the lack of information about hours spent in farming by the farm families surveyed, the number of family members engaged in farming is used as a proxy for labor input during the season. As such, labor is considered to remain constant during the season, implying that larger families will commit more work hours to farming. This may not be true. As Sen has shown, there could be no output response to the withdrawal of family workers if the remaining family laborers worked harder to offset the reduced

number of hours worked. The quantity of work hours committed by two families of the same size may also differ. As mentioned in the subsection on household models, the demand for leisure (or, said differently, the supply of labor) is affected by the level of income. As a result of the income effect, the total hours worked by a family that receives remittances from abroad, or which faces higher output prices in its local market, could be less than hours worked by another family of the same size which does not enjoy these attributes.

Despite its shortcomings, the theoretical model presented in this section was considered the only one which could be empirically estimated, given the data available. A description of the empirical model and estimation procedures used in analyzing the supply response for the Albanian agriculture follows in Chapter IV.

CHAPTER IV

EMPIRICAL MODEL: THE SPECIFICATION AND ESTIMATION OF THE SHORT-RUN PROFIT FUNCTION

IV.1 Introduction

In order to examine the supply behavior of Albanian farmers, a short-run profit function consistent with the theoretical model outlined in Chapter III is developed in this chapter. First, a discussion of alternative specifications is presented. Then, the variables in the econometric model, data sources, and estimation issues are discussed.

IV.2 Functional Form

The question of which functional form to use is common to all empirical econometric studies. Fuss, McFadden, and Mundlak have shown that all functional forms implicitly impose maintained hypotheses on the analysis. The imposition of hypotheses is significant since the outcome of a specific hypothesis test will depend on the validity of the hypothesis under examination and on the validity of the maintained hypotheses used in the model. If invalid maintained hypotheses are imposed, later rejection in a specific hypothesis test may be a consequence of the invalidity of the maintained hypotheses, rather than of the primary hypothesis that is being tested. It is therefore useful to work with functional forms that embody few maintained hypotheses.

The simplest and, at the same time, the most restrictive functional form frequently used in empirical studies is the Cobb-Douglas or the log-linear function. The maintained hypothesis of a model based on a Cobb-Douglas production, cost, or profit function is that the elasticities of substitution between input pairs are equal to unity for all input pairs over the entire input space. It is this property of Cobb-Douglas functions, among others, that has led econometric modelers to seek more flexible forms.

Another simple but somewhat less restrictive function used in empirical studies is the Constant Elasticity of Substitution (CES) function. This function is less restrictive than the Cobb-Douglas because elasticities of substitution between input pairs, although they remain constant over the entire input space, are not constrained to equal one. On the other hand, while the Cobb-Douglas is very convenient for econometric estimation, the CES function is difficult to estimate because it is non-linear in parameters.

The flexible functional forms used in empirical studies in the last two decades are flexible enough to capture all the distinct economic effects. As shown by Fuss, McFadden and Mundalk, the usual comparative statics properties of a production function at a point can be characterized by (n+1)(n+2)/2 distinct economic effects. The authors conclude (p.231) that "a necessary and sufficient condition for a functional form to reproduce comparative statics effects at a point without imposing restrictions across these effects is that it has (n+1)(n+2)/2 distinct parameters." The most used functional forms that satisfy this condition are Taylor series expansions to the second-order.

As shown by Driscoll, the underlying function can be approximated by a Taylor series expansion only in the region of convergence or, stated differently, in the neighborhood of the point of approximation where the error of approximation is bounded and the approximation converges to the underlying function as higher-order terms are added.

As an alternative to the Taylor series approach, two general approaches have been proposed in the literature. Barnett proposes to reduce the variation in the error term by using a generalization of a Taylor series: the Laurent series. The Laurent series consists of adding an analogous series with negative powers to the original Taylor series. Empirical tractability becomes a problem in this approach because of the data requirements. A more serious problem is that there is no guarantee that the Laurent series can globally approximate the true function.

Gallant proposes the use of the Fourier series, which, in principle, can globally approximate the true function. However, its use is very controversial. Weaver points out that Fourier series are necessarily truncated for empirical work. Unfortunately, nothing is known about the nature of the error introduced by truncation and, consequently, about the global behavior of the truncated series.

Chalfant compared results obtained with a Fourier series to those obtained with a Taylor series. He found that the estimated elasticities were more unstable across the data with the Fourier specification, often having wrong signs. The elasticities followed a cyclical pattern. King explains that this is not surprising. The Fourier specification includes terms in sine and cosine. Pope points out that, although the Fourier flexible forms yield consistent estimates, they often have large standard errors: thus it is not surprising to find many coefficients with wrong signs.

Given the problems related to Laurent and Fourier series approaches, in this study, the Taylor series is used, making sure that all data points fall within the region of convergence.

Blackorby, Primont, and Russell have developed the following generalized Taylor series expansion in powers of $f_i(x_i)$:

(4.1) $F[z] = F[f(\mathbf{x})] = \alpha + \Sigma_i \Theta_i * f_i(x_i) + 1/2 \, \Sigma_i \Sigma_j \Gamma_{ij} * f_i(x_i) * f_j(x_j)$

where:

$\Gamma_{ij} = \Gamma_{ji}$

If $f_i(x_i) = x_i$ and F[z] = z, then (4.1) represents the quadratic function. If $f_i(x_i) = x_i^{1/2}$ and F[z] = z, then (4.1) represents the generalized Leontief. If $f_i(x_i) = \ln(x_i)$ and F[z] = ln(z), then (4.1) represents the translog function.

Driscoll has shown that the above functional forms can be interpreted as Taylor series approximations if, for each i=1,2...n, all data lie in the interval between $f_i(0)$ and two times the mean of $f_i(x_i)$. This interval represents the region of convergence. Further, Driscoll shows (p.188) that "If estimated Taylor series functional forms can be interpreted as Taylor series approximations, then the properties of Taylor series approximations apply as well to the estimated Taylor series functional forms. If they cannot be interpreted as series expansions, there is no guarantee that estimates of function value, gradients, and Hessian terms (elasticities) converge to their function counterparts as higher-order terms are added"

As Driscoll as shown, the quadratic form has the smallest interval of convergence among the aforementioned functions. Thus, if a data set complies with the condition of convergence for the quadratic function, it is appropriate to use it for the estimation of the general Leontief or the translog function. An inspection of the last row of Table 5 in Appendix reveals that the maximum values observed for independent variables are not greater than twice the respective means. This means that the convergence condition for the quadratic function is satisfied[3].

The quadratic and the translog functional forms, which are the most used in production economics were considered in this study. The respective model specifications are presented in the following section.

[3] The convergence condition for the quadratic function simply requires that the maximum values observed for independent variables are not greater than twice the respective means.

IV.3 Model Specification

Following Blackorby, Primont and Russell, the quadratic profit function is specified in a condensed form as follows:

$$(4.2)\ \Pi = \alpha + \Sigma_i \Theta_i * P_i + 1/2\ \Sigma_i \Sigma_j \Gamma_{ij} * P_i * P_j + \Sigma_r \Omega_r * F_r + \Sigma_i \Sigma_r Z_{ir} * P_i * F_r + 1/2\ \Sigma_r \Sigma_s D_{rs} * F_r * F_s$$

where:

Π - short-run profit;

P_i - expected output and variable input prices;

F_r - quasi-fixed factors;

α, Θ_i, Γ_{ij}, Ω_r, Z_{ir}, D_{rs} - coefficients; and

$\Gamma_{ij} = \Gamma_{ji}$ (symmetry conditions).

In the short run, which is the focus of this study, fixed factors are held constant. The short-run empirical model then will consist of a set of eight output supply and ten input demand equations. The supply equations are : milk (Yml), around-one-year-old calves (Ycl), around-one-year-old kids and lambs (Ybgl), wheat (Ywh), dry beans (Ybn), potatoes (Ypt), vegetables (Yvg), and fruits (Yfr). The input equations represent the demand by farmers for draft animals (Ydr), cows (Ycw), sheep and goats (Ysg), tractor services (Ytr), combine services (Yco), wheat seed (Yws), corn seed (Ycs), chemicals (Ych), nitrate fertilizer (Ynt), and superphosphate fertilizer (Ysp).

All these supply and demand equations are derived from the variable profit function using symmetry conditions and Hotelling's lemma. All short-run output supply and input demand equations are similar. Using the notation introduced above, they are:

(4.3) $Y_i = \Theta_i + \Sigma_j \Gamma_{ij} P_j + \Sigma_r Z_{ir} F_r \qquad i = 1,2,...18$

where Y_i has a positive sign if it is an output and a negative sign if it is an input.

The system of output supply and input demand equations should satisfy the properties of symmetry and homogeneity. The symmetry follows directly from the profit function approach. If symmetry is not imposed when deriving supply and input demand equations, each of the price regressors would appear twice in each of these equations. This is because in the profit function, for each term $1/2*\Gamma_{ij}*P_i*P_j$, there is a similar term $1/2*\Gamma_{ji}*P_j*P_i$. When the derivative of the profit function with respect to Pi is taken in order to derive the respective supply or input demand function, the above terms will be reduced to $1/2*\Gamma_{ij}*P_j$ and $1/2*\Gamma_{ji}*P_j$. If we assume that $\Gamma_{ij} = \Gamma_{ji}$, the sum of this two terms is simply $\Gamma_{ij}*P_j$. Otherwise, the regressor Pi would appear twice in the i-th equation. The property of homogeneity of degree zero is characteristic of supply or input demand functions derived from a profit function (Varian).

The elasticities of supply and input demand with respect to prices and fixed inputs can be derived from the supply and input demand equations as follows and will be computed at the mean of the data:

(4.4) $E_{ij} = (dY_i/dP_j)*(P_j/Y_i) = \Gamma_{ij}*(P_j/Y_i)$
i = 1,2,....18
(4.5) $E_{ir} = (dY_i/dF_r)*(F_r/Y_i) = Z_{ir}*(F_r/Y_i)$
i=1,2,....18

Following the above reasoning, the short-run translog profit function can be specified as follows:

(4.6) $\ln\Pi = \alpha + \Sigma_i \Theta_i \ln W_i + 1/2 \Sigma_i\Sigma_j \Gamma_{ij} \ln W_i \ln W_j + \Sigma_r \Omega_r \ln L_r + \Sigma_i \Sigma_r Z_{ir} \ln W_i \ln L_r + 1/2 \Sigma_r \Sigma_s Dr_s \ln L_r \ln L_s$

Using symmetry conditions, the fact that $\partial d\ln\Pi/\partial \ln W_i = (\partial P/\partial W_i)*(W_i/\Pi)$, and Hotelling's lemma, the following system of equations can be derived:

$M_i = \Theta_i + \Sigma_j \Gamma_{ij} \ln W_j + \Sigma_r Z_{ir} \ln L_r \quad i = 1,...n.$

where:

$M_i = Y_i W_i / \Pi$

Once the system of share equations is estimated the output supply functions can be derived directly from these equations:

$Yi = (\Theta i + \Sigma_j \Gamma_{ij} \ln W_j + \Sigma_r Z_{ir} \ln L_r) \Pi / W_i \quad i = 1,..,n$

The elasticities of supply with respect to input and output prices can be derived as follows:

$e_{ii} = (\partial Y_i/\partial W_i)*(W_i/Y_i) = - (\Theta_i + \Sigma_j \Gamma_{ij} \ln W_j + \Sigma_r Z_{ir} \ln L_r) \Pi / W_i Y_i$

$+ \Pi \Gamma_{ii}/Y_i * W_i \qquad i = 1,..,n$

$e_{ij} = (\partial Y_i/\partial W_j)*(W_j/Y_i) = \Pi \Gamma_{ij}/Y_i W_i \qquad i = 1,...,n \text{ and } i \neq j$

A comparison of the two specifications reveals that the elasticities derived from the quadratic specification depend only on prices and quantities, whereas elasticities derived from the translog specification depend also on profit levels. This means that the variance of elasticities will increase substantially in the second case. This is because farmers' profits vary from observation to observation. The increased variance will ultimately affect the elasticity estimate confidence intervals. For this reason, and because, fortunately, the data available for this study lies in the quadratic function's region of convergence, the latter was selected to specify the profit function.

IV.4 Definition of the Variables and Data Used in Estimation

In order to have a better understanding of the selection and specification of the empirical model's variables, a brief description of a typical Albanian farm is first presented.

A typical Albanian farm has around 1.2 hectares of cropland, usually dissembled in several plots. The fragmentation of farms took place during distribution of land in 1991-1992. It was seen by the government as a way to level out differences between farms in soil quality and irrigation accessibility. Currently, around every farmer's house there is a plot, which normally is planted with vegetables. During the communist regime, plots around the house were allowed to be used by collective farm members for their own consumption. One, two, and sometimes three other plots are located outside the villages, on the land that belonged to collective farms. Most likely, one or two plots will not be under irrigation and will have soil of a lower quality.

An average Albanian farm has around 30 fruit trees in production, with the bulk of them located around the farmer's house. Some trees are located in the plots that are distant from the house. A good part of the fruits are consumed on the farm, either fresh or processed. The rest are sold in the local market.

Two to three family members are engaged full time in farming on a typical Albanian farm. Most of the farm families have at least one member working in Italy, Greece, or other countries, providing off-farm income. It is estimated that around 400,000 Albanians work abroad. Most of them left Albania during the anarchic years of transition. Starting in 1994, the flow of emigrants was significantly reduced as a result of tough measures adopted by Italy and Greece to curb illegal emigration. Currently, illegally crossing the southern border or the Adriatic has become very costly. In addition to substantial fees that must be paid to traffickers, emigrants often face the risk of getting

shot or drowned while crossing the border or the sea. Given this situation, emigration opportunities for farmers can be considered very limited in the short run.

On the other hand, off-farm employment opportunities within the country are also limited as the unemployment rate in urban and suburban areas has been between 15 and 20 percent in the last two years (EIU). Even though the urban unemployment rate was at around 50 percent in 1993, many farm family members moved to towns and cities. Most of them built kiosks, often without permission, or became street vendors. Soon, they started to build houses around and/or in towns and cities, again, most of the time without permission.

The uncontrolled influx of rural people posed a threat to long-term zoning and development plans, especially for the towns and cities with tourism and business potential. In response to this threat, the Albanian government adopted a tougher stance on enforcing zoning laws in 1994. As a result of the improvement in zoning enforcement, and the increased competition among kiosks and street vendors, the number of farmers who leave their villages has decreased significantly. The percentage of the population engaged in agriculture stabilized at around 50 percent in 1994 (Liko). In 1990, this figure had been 63 percent (MEA).

Some farm families now face a shortage of labor, especially during seasonal peaks. Most of the time, these farm families have to put extra hours into farming because, in Albania, as opposed to many other developing countries, the practice of hiring farm labor is almost non-existent. The word *argat*, which is the Albanian word for hired farm worker, bears a very offensive connotation. This connotation is related to pre-World War II semi-feudal labor hiring practices, which some times were cruel. As a result of this mentality, only a few farmers of very low social status offer their labor to other farmers. The only exception would be in cases when old couples without children ask their neighbors for help.

To illustrate the point, it may be noted that in 1994 only one percent of Albanian farmers used hired labor (MOAF). Further, only seven out of the 1087 farmers interviewed in the survey on which this study is based hired somebody during the 1994-1995 season.

Almost every farmer in Albania tends from one to three milk cows, and from two to fifteen sheep and/or goats. Goats are more common in the hilly and mountainous areas. Main products provided by cows, sheep, and goats are milk, meat, and manure. After the textile mill that used to process wool was closed, the domestic demand for wool was nonexistent. Therefore, wool is not an important source of income.

A part of the milk produced is consumed or processed on the farm. The surplus is sold in the nearest local market. Manure is used on the farm as fertilizer. Calves, kids, and lambs are normally fed on the farm for approximately one year. Most of them are either sold or slaughtered for family consumption. The remaining young animals are kept on the farm either for replacement and/or for herd enlargement purposes. An Albanian farmer rarely buys calves, kids, and/or lambs from another farmer to raise them on his own farm. On the other hand, farmers buy or sell cows, sheep, and/or goats when they decide to increase or decrease their herd.

Most Albanian farmers own at least one draft animal: oxen, horses, mules, or donkeys. These animals are normally used for plowing and for transportation from the distant plots to the house. Their manure is used as fertilizer.

A part of the farm's cropland is used for production of corn, alfalfa, and forage crops. These products are used to feed cows, sheep, goats, and draft animals. Grazing on the common village pastures is another source of feed for farm animals. Albanian farmer seldom buy feed or fodder for their livestock.

Most Albanian farmers produce wheat, dry beans, and potatoes, which are the staple foods for them. Some of the wheat is sold, and the rest is used for family consumption in the form of home made bread. Also some dry beans and potatoes are sold, the rest are stored for family consumption during winter.

The major part of cropland is plowed by tractor. The remainder is plowed by draft animals or turned over by hand. Other operations are mainly conducted by hand, except for harvesting of wheat, which is mainly done by combine. Tractors and combines are primarily owned by former employees of the dissolved Stations of Machines and Tractors, who purchased them when the latter were privatized. On average, there are two to three tractors per village and one combine per two villages. (Department of Agricultural Mechanization in the Ministry of Agriculture and Food). Farmers hire tractor and combine owners for the aforementioned services on a cash basis

After this brief description of typical Albanian farms, the presentation of the variables in the model follows. Output and input variables are successively discussed, the latter consisting of variable and fixed inputs. A list of all the variables with their abbreviations is provided in table IV.1.

As noted earlier, the main products of Albanian agriculture are milk, meat, wheat, dry beans, potatoes, vegetables, and fruits. Other crops like cotton, tobacco, sunflower seeds, which were part of the agricultural output mix under the centralized economy, are not included in the model. They have almost disappeared as a result of cheaper and/or higher quality imports. Also, chicken, egg, and pork production is not included in the model because it is concentrated in the hands of few private commercial companies for which no publicly available data exist.

Table IV.1. Variables of the Model

Yml = milk production

Ycl = around-one-year-old calves production

Ybgl= around-one-year-old kids and lambs production

Ywh = wheat production

Ybn = dry bean production

Ypt = potato production

Yvg = vegetables production

Yfr = fruits production

Ydr = demand for draft animals by farmers

Ycw = demand for cows by farmers

Ysg = demand for sheep and goats by farmers

Ytr = demand for tractor services by farmers

Yco = demand for combine services by farmers

Yws = demand for wheat seed by farmers

Ycs = demand for corn seed by farmers

Ych = demand for pest control chemicals by farmers

Ynt = demand for nitrate fertilizers by farmers

Ysp = demand for superphosphate fertilizers by farmers

Pml = expected farm-gate price of milk

Pcl = expected farm-gate price of calvec

Pbgl= expected farm-gate price of kids and lambs

Table IV.1 (continued)

Pwh = expected farm-gate price of wheat

Pbn = expected farm-gate price of dry beans

Ppt = expected farm-gate price of potatoes

Pvg = average farm-gate price of vegetables

Pfr = aaverage farm-gate price of fruits

Cdr = cost of draft animals

Ccw = cost of cows

Csg = cost of sheep and goats

Ctr = cost of tractor services

Cco = cost of combine services

Pws = farm-gate price of wheat seed

Pcs = farm-gate price of corn seed

Pch = farm-gate price of pest control chemicals

Pnt = farm-gate price of nitrate fertilizer

Psp = farm-gate price of superphosphate fertilizer

Ln = crop land (hectares)

Lb = farm labor (number of family members engaged in farming)

Ir = percentage of cultivated land under irrigation

Ft = fruit trees (number per farm)

Corn, alfalfa, and other forage crops are not included explicitly in the farmer's profit function. They enter it indirectly as intermediate products. The rationale for this is that inputs like land, labor, seeds, irrigation, fertilizers, and so forth are used to produce corn, alfalfa, and so forth, which, in turn, are used on the farm as feed to produce final products like milk, cattle, and one year old kids and lambs. Markets for corn and other feeds are almost non-existent in Albania.

IV.4.1 Output variables

The variable *supply of milk* (Yml) represents the total quantity of milk produced on the farms surveyed during the 1994-95 agricultural season. This variable was not disaggragated into cows milk, goat milk, and sheep milk because there are practically no differences among their prices. As noted earlier, the Special Agricultural Survey conducted in 1995 by the Albanian Ministry of Agriculture and Food under the supervision of Support for Agricultural Restructuring in Albania (SARA) Project was the main source for the data set used to estimate the econometric model. Specifically, output and input quantities were taken from this survey (Table 1, Appendix).

The survey was designed in a way that the sample would represent the distribution of agricultural activity across the country. The agricultural area was divided into the following strata:

1. Coastal areas;
2. Foothills areas;
3. Hilly areas;
4. Low mountain areas; and
5. High mountain areas with limited agriculture.

Each stratum was divided in roughly equal segments. The number of segments actually surveyed was 183 or 0.4 percent of the total number of segments composing the

area-sampling frame in the country. The bulk of the segments surveyed (46 percent) were located in the third stratum. Twenty five percent of the segments were selected from the second stratum. Nineteen percent were selected from the first stratum. Another 8 percent were selected from the forth stratum, with the remaining two percent from the fifth stratum. Moving from the first stratum to the fifth, segments become smaller to reflect the change in the size of farms. Farms in the first and second strata, most of which where created as the result of the distribution of land from former state farms, tend to be bigger. Starting with the third strata, most of farms are located on the land that formerly belonged to collective farms. Collective farms had a higher number of families per hectare than state farms.

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Six farmers were interviewed in each segment. In 11 segments, one interview per segment was discarded due to inconsistency. Thus, the total number of valid observations is 1,087.

Milk price (Pml), like other output prices, enters the profit function as expected price since actual prices are not generally known when production decisions are made.

Milk price expectations for 1995 are represented by the average price of milk in 1994. Since only a part of the surveyed farmers sold milk in 1994, local market prices provided by the Department of Statistics in the Albanian Ministry of Agriculture and Food (see Table 2, Appendix) were used to calculate the farm-gate prices for each village included in the cross-sectional sample used in this study. Thus, the cost of transportation from each village to the nearest local market was subtracted from the average price reported for the respective market. The Albanian Road Map (1:400,000, printed by I.T.U. Tirana, Albania, 1993) was used to measure the distance between each village and its local market. Transportation costs for each region were provided by the Department of Agricultural Mechanization in the Albanian Ministry of Agriculture and Food (Table 3, Appendix). An example of calculations involved to derive the farm-gate prices for one of the villages of the sample follows.

The distance of Veterik, (the first village in the sample list), from its nearest market town, Berat, is 16 kilometers (around 10 miles). The 1994 average cost per kilometer of shipping one kilogram milk in the district of Berat was lek 0.287. Thus, the total cost of transporting one kilogram milk from Veterik to Berat was lek 4.6. Subtracting this cost from the 1994 average price of milk of 30 lek/kilogram in the Berat market, a farm-gate price of 25.4 lek/kilogram is obtained. This price is considered the one that the six farmers surveyed in Veterik received in 1994. It is assumed that the price of milk sold locally in the village reflected the market prices and the transportation costs. That is, it is sold at the farm-gate price. Based on personal interviews of the author with farmers in several districts of Albania, this assumption seems to hold in most cases. The above procedure was used to derive farm-gate prices for all other products.

The variable *supply of around-one-year-old calves* is used in this study as a proxy for the production of beef. Obviously, this variable is not a very good proxy, because some of the cattle sold or slaughtered during the season in which the survey was conducted, may have been born in the previous season. The best way to represent the quantity of meat produced on a farm would be to use the cattle weight gain during the

season as a measure of meat production. This kind of information used to be readily available from the collective farms. Indeed, the wages of the persons responsible for tending the cattle in collective farms were based on the weight gain during the season. The information about weight gain is currently very difficult to acquire, because there is no incentive for farmers to spend time and money to take animals to a place where they can be weighed.

Given the lack of information about the weight gain, the production of beef is represented by a simple sum of the number of *calves around one year old* which were sold, slaughtered, and/or kept on the farm for reproduction. Department of Statistics market prices are also reported for the same age group, assuming a homogeneous product. This assumption is very strong because there may be significant differences even between animals of the same exact age, let alone the gap that may exist between cattle that have, say, one or two months difference in age.

Another problem with the assumption of output homogeneity is the difference that may exist between calves slaughtered for home consumption and those sold in the market. Given the competitiveness of the market, it is reasonable to believe that sometimes farmers would not slaughter their best calves for home consumption. One approach to tackle this problem is to ask farmers what would have been the farm-gate price for the slaughtered calves. Unfortunately, such a question was not included in the questionnaires of the survey available for this study. However, it should be noted that even if this information were provided, it would suffer from some subjectivity.

Around one-year-old kids and lambs were included in the same output group because their prices were practically the same across all markets. The total number of kids and lambs sold, slaughtered, and/or kept on the farm to become goats and sheep was used as a proxy for kid and lamb supply based on the same assumption used with beef. Obviously, this specification shares the same problems noted in the discussion above.

The variables *supply of wheat*, *supply of dry beans*, and *supply of potatoes* simply represent the quantity of wheat, dry beans, and potatoes produced on the farms surveyed. These quantities include both the portion of the product sold and the portion kept for family consumption. For dry beans and potatoes, the quantity produced net of seed quantities for the season is used because almost every farmer in the survey has used his/her own seeds, saved from last year's crop.

Normally, potato and bean seeds should appear separately from their respective final products in the model. In this study, the quantity of seeds was subtracted from the quantity produced because otherwise the price of potatoes, for example, would appear twice in the equations - once as output price and then as input price. Another option considered was to aggregate different kind of seeds in one input variable. This option was discarded because significant information could be lost about the effects of government policies on the demand for specific seeds. As noted in Chapter I, it would have been very helpful to the government if the expected effects of eliminating the wheat seed import tariff were known before eliminating it. If all seeds were combined in one input variable, the effects of such measures could not be predicted.

No quality difference was reported for each of the above commodities by the Department of Statistics in the Ministry of Agriculture and Food, based on the assumption that they are homogeneous. This seems a plausible assumption considering the fact that one variety prevails in almost all of Albania for each of these crops.

While prices for each kind of vegetable or fruit were available, the information on specific quantities was not provided by the survey used in this study or by the Department of Statistics' data. The survey reported the total quantity for vegetables and for fruits, where the total represented simply an arithmetic sum of the quantities of each product. On the other hand, the Department of Statistics reports only prices. This shortcoming made it impossible to construct appropriate quantity and price indices. Thus, simple average prices were used respectively for vegetables and fruits, making the *very strong*

assumption that they are homogeneous products. Obviously, this assumption may be a source of misspecification.

Only monthly average prices for the season that corresponds to domestic production were taken into consideration. The out-of-season supply of vegetables and fruits comes mainly from imports. Only the greenhouse production of tomatoes and cucumbers is relatively important in Albania. This production is concentrated in the hands of a few commercial companies and, therefore, no data are publicly available.

IV.4.2 Input Variables

The variable *demand for draft animals by farmers* represents the average number of oxen, horses, and mules on farms during the 1994-95 agricultural season. No information on their specific use on the farms was available. However, it is assumed that they serve as a substitute for non-mechanized services. Based on personal interviews with farmers in several Albanian districts, this assumption seems plausible.

The variable *cost of draft animals* represents the cost of capital tied up in keeping the draft animals on the farm. In order to calculate the cost of capital, the farm-gate price of draft animals was multiplied by 14 percent, which is the interest rate offered by state banks on savings accounts. Informal market interest rates were not taken into consideration based on the findings of a survey conducted by the Bank of Albania. This study concluded that only around 10 percent of farmers had invested their savings in the informal financial markets during the first part of 1995 (Kola). Average prices for the agricultural season 1994-95 were used to calculate farm-gate prices. No relevant differences prevailed among prices for oxen, mules, and horses. That was the reason that they were included in the same group.

The assumptions and data sources used for draft animals were also used for the variables: *demand for cows by farmers, demand for sheep and goats by farmers, cost of cows,* and *cost of sheep and goats*.

Considerable thought was given to including depreciation in the cost of keeping the above animals on the farm. Given the fact that no information was available about the age and breed of the animals, and their respective prices, constructing a flat depreciation schedule was considered to be somewhat misleading. From personal interviews by the author with several farmers in Albania, it was revealed that animal prices experience an increase up to the age of four years in the case of cows and draft animals, and three years for sheep and goats. After that age, the prices of animals start falling, with the depreciation being accelerated while approaching the end of animals' economic life.

The implication of this finding is that, in the first part of a young animal's life, the cost of keeping it for one year on the farm is lower than the forgone interest income. This is because the market value of the animal increases during the year. If a flat depreciation schedule is applied, just the opposite is assumed. In this case, the assumed cost of keeping the animal for one more year would be higher than the foregone interest income.

Between the alternative of simply using the forgone interest income and the alternative of using the interest income plus a yearly flat depreciation to represent the annual cost of keeping an animal on the farm, the former was chosen. It seems that the inclusion of a flat depreciation cost would not provide much useful information for the estimation of the model. Had the information about the age of animals and their respective prices been available, a schedule of the real cost of keeping the animal on the farm could be constructed. That schedule would show what is the forgone interest income plus or minus the appreciation or depreciation in the market value of an animal at any certain point within the animal's economic life span.

In addition to the cost of keeping livestock on the farm, the cost of capital tied up for farm equipment was considered for inclusion in the model. Aside from the fact that the necessary information to calculate this cost was not available, this variable was considered non-essential, based on the fact that the only equipment that most farmers in Albania own are hand tools. These hand tools, in most cases, were taken from former collective farms, obviously, at no cost.

The variables *demand for tractor services by farmers* and *demand for combine services by farmers* are represented by the area of land plowed by tractor and the area of wheat harvested by combine. As noted earlier, these are the two main services provided to farmers from outside sources. Owned draft animals and hand tools are used to perform most of the operations required in farming.

Plowing rates charged during the 1994-1995 agricultural season were used for the cost of tractor services. The prevailing combine harvesting rates during the 1994 wheat harvest season were used for the cost of combine services, assuming that expectations about 1995 rates were based on 1994 rates. The information on the rates was provided by the Department of Agricultural Mechanization in the Albanian Ministry of Agriculture and Food (Table 4, Appendix).

The variables *demand for wheat seed by farmers* and *demand for corn seed by farmers* represent the sum of respective quantities of purchased seeds and quantities of farmers' own seeds, saved from last year's crop. While theoretically there should be a qualitative difference between seeds produced by farmers and seeds imported or produced by specialized applied research institutes in Albania, market prices did not reflect this difference, or at least a difference was not reported. Given the information at hand, seed homogeneity was assumed, being aware of the fact that there is no guarantee that the quality of saved seeds was comparable with the quality of purchased seeds.

Limitations in information also lead to omitting the demand for vegetable seeds from the model. However, considering the fact that most of the farmers in the survey have not purchased vegetable seeds, and the fact that the income forgone from not selling vegetables used for seed production is not significant, the exclusion of vegetable seeds in model can be assumed to have a minor effect on its estimation.

The farm-gate prices for wheat and corn seeds were calculated by adding transportation costs to respective local market prices. The same procedure was followed for other input prices like fertilizers and chemicals.

The variable *demand for pest control chemicals by farmers* represents the sum of the quantities of chemicals used on farms for pest control during the season 1994-1995. No information was provided in the survey about the quantities of specific chemicals, making it impossible to construct a quantity index and consequently a price index. Thus, given this shortcoming, all chemicals were included in the same homogeneous group, with its representative price being simply the 1994-95 average price of chemicals traded in local markets.

Urea and ammonium nitrate were included in the same group assuming they are almost perfect substitutes. Both their use and market prices support this assumption. Super phosphate was considered as a separate input because of its different role in the production process and the significant difference in price from urea and ammonium nitrate.

IV.4.3 Fixed input variables

The group of fixed input variables includes the cropland of each farm, the family labor used on the farm, the percentage of crop land under irrigation, and the number of fruit trees in production.

While the assumption that cropland is a fixed factor in the short run is very reasonable, the assumption of equal soil quality made in this study is very problematic. Although the fragmentation of farms was designed to level out differences in soil quality, it can hardly be claimed that soil quality is equal across the country. Thus, the specification of soil quality as one of the variables that define the characteristics of the farm is necessary. Unfortunately, the necessary information to specify it is not provided in the survey used in this study. In addition, the Institute of Soils in Tirana was unable to provide such information. The updating of its maps is still in progress.

Considerable thought was given to including a dummy variable in the model that would capture the effects of land productivity differences across the sample. A dummy variable that reflects the location of farms within the respective strata of the area-sampling frame, was perhaps the best available candidate. The problem with this dummy variable is that, rather than differences in soil quality, the stratification represents the distribution of agricultural activity and patterns of farm sizes across the country. Stated differently, it can be said that the fact that a farm is located in the third or fourth stratum does not necessarily mean that its soil is worse than the soil of a farm located in the first or second stratum. Indeed, one or two of its plots may have much better soil than all the plots of a farm located in the coastal area. It should be noted however, that the contrary might well be true.

Differences in soil quality may not be the only reason for differences in land productivity across the country. Variability in weather conditions and climate from one region to another may play an important role in land productivity. This is true despite the fact that Albania is a small country. Sometimes, significant differences in temperatures and rainfall can be observed across the country. For this reason, it was desirable to include weather and climate characteristics in the model. Unfortunately, the necessary data for their specification were not available. Only 10 out of the 36 meteorological stations that Albania had in 1990 were functioning in 1995. Further, even their data were not complete.

Another factor that may greatly influence farm output in Albania is the public pastureland availability. As mentioned earlier, common pastures are located around each village. In some cases, they represent the main source of feed for the village's farm animals. In other cases, common pastures may be less significant because of their small size. In the latter cases, assuming other things equal, the total output of a farm can be smaller because a good part of its land may be planted with forage crops.

A good way to factor in grazing accessibility would be to specify the fixed input variable *common pastureland per farm.* While the inclusion of such a variable in the model was considered important, the lack of information prevented its inclusion. Left with no alternative, it was assumed that the quantity of common pastureland per farm is the same across the sample.

In this study, it is assumed that the productivity of fruit trees is the same across the sample because no information was available to differentiate trees according to their productivity. This assumption is very strong considering the fact that differences in productivity can even be found among trees on a particular farm. For example, an older olive tree may produce more olives than a younger one. Had the information on trees' past productivity been available, they could be grouped accordingly and specified in the model as separate inputs. Further, as discussed earlier, if the number of each kind of trees was reported separately, "*adding apples and oranges together* " could have avoided.

Because of the lack of information about hours spent on farming by the farm families surveyed, the number of family members engaged in farming is used as a proxy for the family labor input during the season. As such, labor is considered to remain constant during the season, based on the assumption that short-run employment opportunities outside the farm are very limited.

While this assumption is and, most likely, will be realistic for some time to come, it can hardly be assumed that larger families will put more work hours into farming than smaller ones. This may not be true because, as Sen has showed in his study on peasant households, there can be no productivity differences between a smaller and a bigger peasant household if the former worked sufficiently hard to offset the difference in the number of members. Also, the quantity of work hours used in farming by two families of the same size may be different because, as mentioned in the subsection on household models, the demand for leisure (or, said differently, the supply of labor) is affected by the level of income. As a result of the income effect, the total hours worked by a family that receives remittances from abroad or which faces higher output prices in its local market could be less than hours worked by another family of the same size which does not have these attributes.

As far as the quality of farm labor is concerned, it can safely be assumed that differences are very small across the country. The rationale behind this assumption is that the level of education does not exhibit significant variation among Albanian farmers. Indeed, since 1948, middle school education has been compulsory and high school education has been ubiquitous in Albania. Since then, thousand of teachers from the most developed areas have spent years in remote villages to teach farmers and their children. The eradication of illiteracy and the leveling of differences in education across the country are considered by many analysts as rare positive legacies of the former Stalinist regime in Albania.

Given the characteristics of farm labor in Albania, a semi-subsistence household model, without labor market would have been appropriate to use for analyzing the supply behavior of Albanian farm households. Such a model was presented in Chapter III. Unfortunately, the information necessary to estimate that model was not available for this study.

As noted many times in this chapter, the limitations posed by the lack of information may significantly reduce the ability of the empirical model used in this study to explain the supply behavior of Albanian farmers. Between the alternative of estimating a model that would represent only a rough approximation of the reality and the alternative of relying only on intuition for conducting policy analysis, the former was chosen, hoping that the model and procedures used in this study will serve as a starting point for future research.

IV.5 **Estimation Issues**

Two econometric approaches are used to estimate output supply functions and input demand functions. Following the traditional approach, the conditions of homogeneity and symmetry are imposed and the resulting structural model is estimated using an Iterative Seemingly Unrelated Regression (ITSUR) procedure. Further, an overall Rao F-test is conducted to test if the symmetry conditions hold. Based on estimated parameters of supply and demand functions, own-price, cross-price, and output-fixed input elasticities are calculated.

Following the approach proposed by McGuirk, *et al*, first the unrestricted model is estimated and then it is tested to see if all the underlying statistical assumptions of the linear regression are met. A statistically adequate unrestricted model is critical since it is, by construction, the statistical model from which the structural model is derived. Consequently, if statistical assumptions underlying the unrestricted model are invalid, statistical inferences drawn from the structural model will be invalid as well.

IV.5.1 The Traditional Approach

It is common practice in applied production economics studies to impose the homogeneity and symmetry conditions on the dual profit model *a priori*, and to implicitly assume that the resulting structural model is statistically adequate. Some examples of this

approach include the studies of Sidhu and Baanante, Shumway, Grisley and Gitu, and Antle.

In the traditional approach, the symmetry conditions are imposed directly in the SAS estimation procedure. The estimation of a normalized profit function, that is, the profit function in which all prices are divided by one of the prices, imposes the homogeneity conditions. To understand what happens with normalization, it is convenient to work with the first part of the expanded specification of a typical equation. For example, by expanding the first part of equation (4.3), the milk equation can be written as:

(4.6) Yml = Bml + Bmlml*Pml + Bmlcl*Pcl + Bmlbgl*Pbgl + Bmlwh*Pwh + Bmlbn*Pbn + Bmlpt*Ppt + Bmlvg*Pvg + Bmlfr*Pfr + Bmldr*Cdr + Bmlcw*Ccw + Bmlsg*Csg + Bmltr*Ctr + Bmlco*Cco + Bmlws*Pws + Bmlcs*PCs + Bmlch*Pch + Bmlnt*Pnt + Bmlsp*Psp
+ $\Sigma_r Z_{ir}*F_r$
where B's are the parameters of interest.

Normalizing with respect to the price of superphosphate, Psp, yields the normalized milk equation:

(4.7) Yml = Bml + Bmlml*(Pml/Psp) + Bmlcl*(Pcl/Psp) + (Bmlbgl*Pbgl/Psp) + Bmlwh*(Pwh/Psp) + Bmlbn*(Pbn/Psp) + Bmlpt*(Ppt/Psp) + Bmlvg*(Pvg/Psp) + Bmlfr*(Pfr/Psp) + Bmldr*(Cdr/Psp) + Bmlcw*(Ccw/Psp) + Bmlsg*(Csg/Psp) + Bmltr*(Ctr/Psp) + Bmlco*(Cco/Psp) + Bmlws*(Pws/Psp) + Bmlcs*(PCs/Psp) + Bmlch*(Pch/Psp) + Bmlnt*(Pnt/Psp) + Bmlsp*(Psp/Psp) + $\Sigma_r Z_{ir}*F_r$

which is:

(4.8) Yml = B'ml + Bmlml*P'ml + Bmlcl*P'cl + Bmlbgl*P'bgl +

Bmlwh*P'wh + Bmlbn*P'bn + Bmlpt*P'pt + Bmlvg*P'vg + Bmlfr*P'fr + Bmldr*C'dr + Bmlcw*C'cw + Bmlsg*C'sg + Bmltr*C'tr + Bmlco*C'co + Bmlws*P'ws + Bmlcs*P'cs + Bmlch*P'ch + Bmlnt*P'nt

$+ \Sigma_r Z_{ir}*F_r$

where B'ml = Bml + Bmlsp, and P' = Pj/Psp.

Normalizing thus reduces by one the number of parameters to be estimated in each equation. Equation (4.8) is the equation estimated. It provides estimates of all parameters, except for Bml and Bmlsp. These can be recovered by making use of the fact that the output supply and input demand functions are homogeneous of degree zero in prices. In the case of the original milk equation (4.4), homogeneity of degree zero in prices means:

$$Yml(t*P, F) = t^0*Yml(P, F) = Yml(P, F)$$

where P is the set of output and variable input prices, and F is the set of fixed inputs. More specifically, this is:

Bml + Bmlml*t*Pml + Bmlcl*t*Pcl + Bmlbgl*t*Pbgl + Bmlwh*t*Pwh + Bmlbn*t*Pbn + Bmlpt*t*Ppt + Bmlvg*t*Pvg + Bmlfr*t*Pfr + Bmldr*t*Cdr + Bmlcw*t*Ccw + Bmlsg*t*Csg + Bmltr*t*Ctr + Bmlco*t*Cco + Bmlws*t*Pws + Bmlcs*t*PCs + Bmlch*t*Pch + Bmlnt*t*Pnt + Bmlsp*t*Psp + $\Sigma_r Z_{ir}*F_r$

= Bml + Bmlml*Pml + Bmlcl*Pcl + Bmlbgl*Pbgl + Bmlwh*Pwh + Bmlbn*Pbn + Bmlpt*Ppt + Bmlvg*Pvg + Bmlfr*Pfr + Bmldr*Cdr + Bmlcw*Ccw + Bmlsg*Csg + Bmltr*Ctr + Bmlco*Cco + Bmlws*Pws + Bmlcs*PCs + Bmlch*Pch + Bmlnt*Pnt + Bmlsp*Psp + $\Sigma_r Z_{ir}*F_r$

After re-arranging terms, the following equation is obtained:

(4.9) (t-1)*(Bmlml*Pml + Bmlcl*Pcl + Bmlbgl*Pbgl + Bmlwh*Pwh + Bmlbn*Pbn + Bmlpt*Ppt + Bmlvg*Pvg + Bmlfr*Pfr + Bmldr*Cdr + Bmlcw*Ccw + Bmlsg*Csg + Bmltr*Ctr + Bmlco*Cco + Bmlws*Pws + Bmlcs*PCs + Bmlch*Pch + Bmlnt*Pnt + Bmlsp*Psp)
= 0

Since this needs to hold for any value of t, it implies that the linear combination of prices must be equal to zero. Imposing this relationship at the mean of the data provides the estimated value of Bmlsp. The constant term is then calculated as Bml = B'ml - Bmlsp. The true components of the estimated constant are computed similarly for each output or input equation.

Since normalizing the profit function with respect to Psp means that all terms in Psp become part of the intercept, it also implies that the corresponding input equation (Ysp) is not estimated. The parameters associated with price variables can be recovered using symmetry conditions.

For any output or input price P_j different from Psp, the relationship Bspj = |Bjsp| holds by symmetry with a plus sign if P_j is an output price and a minus sign if it is an intput price. Since Bjsp can be computed using the equation (4.9), Bspj can be derived by symmetry. Using the homogeneity of the superphosphate equation, Bspsp can be recovered as well.

The remaining coefficients of the superphosphate equation are not subject to symmetry or homogeneity restrictions, and thus cannot be computed from already estimated coefficients. Consequently, they need to be estimated separately. Hence the approach followed is to compute the coefficients on Psp in all seventeen equations from the coefficients of the estimated output supply and input demand equations (using homogeneity), obtain the cross-price coefficients in the last equation, Ysp (using symmetry), and compute the own-price coefficient in Ysp (using homogeneity). The last

step is to estimate the missing coefficients in Ysp. This is done as follows. The equation for Ysp can be written as:

$$Ysp = Bsp + \Sigma_j Bsp_j * P_j + \Sigma_r Zsp_r * F_r$$

The coefficients Bsp_j are already known, hence we write:

$$Ysp - \Sigma_j Bsp_j * P_j = Bsp + \Sigma_r Zsp_r * F_r$$

The equation to estimate Y'sp is thus:

$$(4.8) \quad Y'sp = Bsp + \Sigma_r Zsp_r * F_r$$

where $Y'sp = Ysp - \Sigma_j Bsp_j * P_j$.

IV.5.2 The McGuirk Approach

As noted earlier, the approach proposed by McGuirk, *et al*, requires that, before imposing and/or testing any theoretical assumption, the unrestricted model is estimated and tested to see if all the underlying statistical assumptions of the linear regression are met. Conducting these tests is necessary even when a researcher is convinced that his/her model is specified in accordance with the profession's conventional wisdom, there is no guarantee that the model is statistically adequate.

The statistical adequacy principle was first proposed by R.A.Fisher. This principle suggests that to evaluate any theory using econometrics, the theory must be viewed in the context of a valid statistical model. According to McGuirk, *et al*, (p.1), "a valid statistical model is one whose underlying assumptions are appropriate for the data being analyzed. In econometrics, these assumptions usually relate to the (conditional) distribution and moments of the observable random variables (Spanos 1989). Although

published research does not always reflect full appreciation of this principle, most researchers are aware that tests of economic theory have no statistical validity unless model assumptions are valid. Test statistics will not have their expected distributions when underlying model assumptions are inappropriate".

In this study, the unrestricted model, whose underlying statistical assumptions first should be checked, represents simply a multi-equation linear regression model (MLRM). A discussion on the statistical assumptions underlying a MLRM follows[4]

A multiequation linear regression model can be formulated as:

$\mathbf{y_t = B'X_t + u_t}$

where:

$\mathbf{y_t}$ - a q-vector of endogenous variables;

$\mathbf{X_t}$ - a (K+1)-vector including a constant and K exogenous variables;

B - a (K+1)xq matrix of unknown parameters; and

$\mathbf{u_t}$ - a q-vector of random disturbances.

In this formulation all regressors are assumed to appear in all equations.

The MLRM assumptions can be summarized as follows:

1 - Normality: $f(\mathbf{y_t}|\mathbf{X_t};\Theta)$~multivariate normal, i.e. the distribution of $\mathbf{y_t}$ conditional on $\mathbf{X_t}$ is normal, where $\Theta = (\mathbf{B}, \Omega)$ and Ω is the qxq conditional variance-covariance matrix;

2 - Functional Form: $E(\mathbf{y_t}|\mathbf{X_t = x_t}) = \mathbf{B'x_t}$ or the conditional mean is linear;

3 - Homoskedasticity:

[4] The notations used by McGuirk *et al.* are mainly preserved.

a) Static: the conditional variance, Var($\mathbf{y_t}|\mathbf{X_t} = \mathbf{x_t}$), does not depend on $\mathbf{x_t}$;

b) Dynamic: the conditional variance does not depend on the past history of $\mathbf{u_t}$, $\mathbf{y_t}$, or $\mathbf{x_t}$;

5 - Parameter Stability: $\Theta = (\mathbf{B}, \Omega)$ is stable, i.e. the parameters of the conditional mean and variance do not vary with t;

6 - Weak Exogeneity: the marginal distribution of $\mathbf{X_t}$ does not contain relevant information for the estimation of Θ. Thus, it can be ignored; and

7 - No Perfect Collinearity: Rank($\mathbf{X}$) = K + 1.

Spanos (1986) has shown that if these assumptions hold, then ordinary least squares estimation (OLS) yields minimum variance linear unbiased estimators of **B and Ω**, the estimator of **B** is normally distributed and $\mathbf{T}\hat{\Omega}$ (where $\hat{\Omega}$ is the OLS estimator of **Ω**) follows a Wishart distribution. Any violation of these assumptions invalidates all finite and most asymptotic tests of **B and Ω** (see McGurik, Driscoll, and Alwang). This is because the distribution of the latter is unknown in case of an inadequate statistical model. Thus, any specification test such as standard t-tests of parameter significance or tests of theoretical restrictions like symmetry and homogeneity will be invalid if the model is statistically inadequate.

A battery of tests proposed by McGuirk *et al.* is used in this study to check if the underlying statistical assumptions of the linear regression are met.[5] The resulting p-values from the tests are interpreted as the weight of evidence against the assumptions being tested. P-values lower than 0.05 are considered as weak evidence against the null. P-values less than 0.01 are considered as strong evidence. All tests were conducted using SAM, An Interactive Regression Program, written in GAUSS by Robertson, McGuirk, and Spanos.

[5] Only the first five assumptions listed above are directly testable.

IV.5.3 The Sub-Sample Method[6]

In the case that statistical assumptions of an estimated model are violated, McGuirk, *et al,* suggest the respecification of the model based on the information provided by the battery of tests on the possible misspecification source. However, in some studies, either no additional information is available to support the respecification efforts, or these efforts fail to provide a remedy.

An alternative estimation procedure is proposed in this study for such cases. In order to acquire information on the probability distribution of parameters, a large number of randomly picked subsamples from the initial sample are drawn preserving the stratification used in drawing the latter. Each subsample is used to estimate the parameters of the MLRM using the ordinary least squares method. In this way, the large number of estimates acquired for each parameter, serves as a basis for describing their underlying distribution. Once the underlying distributions of unrestricted model parameters are known, theoretical tests can be conducted and statistical inferences can be drawn. Obviously this procedure is suitable for large samples, especially for cross-section samples.

The results of estimation for each of the approaches described above and a comparison among them are presented in the next chapter.

[6] Only after the procedures for this approach were designed and the results were obtained, did the author find that Efron and Tishirani had proposed the same approach ten years ago. They called this estimation approach "bootstrapping."

CHAPTER V

RESULTS AND IMPLICATIONS

V.1 Introduction

In this chapter the results obtained by estimating the model developed in the previous chapter are reported. First, estimation results from the traditional approach are discussed. Second, the statistical adequacy of the model is checked based on the results from the battery of tests suggested by McGuirk *et al.* Third, the results obtained by estimating the model through the sub-sample method are presented and the validity of model's assumptions is discussed. An equation-by-equation discussion on supply and input demand elasticities, and their policy implications completes the chapter.

V.2 Results from the Traditional Approach

The parameters of the restricted model presented in section IV.5.1, were estimated using the Iterative-Seemingly Unrelated Regression (ITSUR) procedure (Kmenta, 1986). The Gauss-Newton method was used to minimize the objective function with the convergence criteria set at 0.001 (SAS/ETS, 1992).

As discussed in the previous chapter, symmetry properties and homogeneity are a characteristic of any system of supply and demand equations derived from a profit function. A joint Rao test of these conditions was conducted. The resulting P-value was

0.064. By conducting this test, it was implicitly assumed that the test statistic has a Fisher distribution or, stated differently, it was assumed that parameter estimators are normally distributed. While this assumption does not necessarily hold for any regression model, it is common practice in the profession to jump to the conclusion that the profit function framework is adequate to analyze the supply response, if the P-value from the joint test turns out to be greater than 0.05.

The next step is to check the statistical adequacy of the model used in estimation by simply looking at the goodness of fit coefficient, R^2. In this estimation, the lowest adjusted R^2 value obtained for the seventeen equations estimated directly was 0.89. The adjusted R^2 was 0.91 for the superphospate equation, which, as described in section IV.5.1, was estimated separately to determine the coefficients of the fixed factors that are not subject to symmetry conditions. While these relatively high R^2 values may not necessarily guarantee the statistical adequacy of the estimated model, as McGuirk and Driscoll have shown, in many studies they serve as a green light for starting to report and comment on estimation results. Following this tradition, the estimated results for the eighteen equations of the short-run model are presented in Tables V.1, V.2, and V.3.

The estimated parameters for the eighteen equations and the respective t-ratios are presented in Tables V.1 and V.2. Elasticities computed at the data means are presented in table V.3. An inspection of table V.2 reveals that most of the t-ratios are greater than 2.8. Assuming that parameter estimators are normally distributed, t-ratios greater than 2.8 indicate that the estimates can be considered statistically not different from zero at five percent significance level. This would men that the dependent variables are not affected by changes in most of the independent variables included in the model. However, note that the normality assumption may not necessarily hold for any regression model. Thus, the occurrence of high t-ratios cannot be considered as a reliable indicator of estimate insignificance, unless it is proved that the regression estimators are normally distributed.

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TABLE V.1 ESTEMATED PARAMETERS UNDER THE ASSUMPTIONS OF HOMGENEITY

Equation	pml	pcl	pbgl	pwh	pbn	ppt	pvg	pfr	cdr	ccw	csg
yml	207.9356	0.314858	2.767488	-317.87	1.182372	-26.2072	-93.9788	3.670621	0.162108	-0.97429	-6.73069
ycl	0.314858	0.001106	-0.00499	-0.5596	0.002341	-0.05442	-0.10131	0.010306	-3.2E-05	-0.00062	0.005919
ybgl	2.767488	-0.00499	0.067442	-2.92686	0.0194	-0.26324	-1.83742	0.012278	0.001708	0.003388	-0.04244
ywh	-317.87	-0.5596	-2.92686	1344.99	-0.70269	-13.695	-10.9617	-1.0891	0.126788	0.415841	3.195521
ybn	1.182372	0.002341	0.0194	-0.70269	16.80303	0.134181	2.127926	-0.64529	-0.07217	-0.04099	-0.11018
ypt	-26.2072	-0.05442	-0.26324	-13.695	0.134181	33.55389	12.9258	0.40851	-0.01672	0.075047	0.170052
yvg	-93.9788	-0.10131	-1.83742	-10.9617	2.127926	12.9258	135.3064	-1.92759	-0.00241	0.16691	1.87876
yfr	3.670621	0.010306	0.012278	-1.0891	-0.64529	0.40851	-1.92759	3.198215	0.036881	-0.00547	-0.01582
ydr	0.162108	-3.2E-05	0.001708	0.126788	-0.07217	-0.01672	-0.00241	0.036881	0.002561	1.97E-05	-0.00333
ycw	-0.97429	-0.00062	0.003388	0.415841	-0.04099	0.075047	0.16691	-0.00547	1.97E-05	0.005513	-0.00011
ysg	-6.73069	0.005919	-0.04244	3.195521	-0.11018	0.170052	1.87876	-0.01582	-0.00333	-0.00011	0.134829
ytr	0.551475	-0.0001	-0.00576	-0.58131	-0.69594	-0.13394	0.481765	0.046242	-0.02403	0.000514	0.01642
yco	1.625214	0.002905	0.023381	-0.86842	0.385476	0.247082	0.033004	-0.14599	-0.01356	-0.01798	-0.07237
yws	7.037911	0.009125	0.022462	-12.983	1.754179	2.04839	1.324905	-0.26715	-0.01419	-0.04675	-0.24881
ycs	-9.60719	-0.01169	-0.03263	12.31345	1.207523	3.152427	3.206575	-1.09255	0.001894	0.011306	0.128281
ych	1.075999	0.000707	0.001683	-0.92788	-0.20054	-0.10191	-0.13308	-0.59662	-0.00086	-9.2E-05	-0.01228
ynt	10.59874	0.007186	0.026949	-8.70243	-3.02735	-3.04023	-3.81963	-4.947	-0.01387	-0.0056	-0.14837
ysp	-135.519	-0.2588	-0.74612	-7.404	-71.1445	14.958	-14.5237	-4.99228	0.441701	0.513244	1.546287

TABLE V.1 (Continued)

Equation	ctr	cco	pws	pcs	pch	pnt	psp	ln	lb	ir	ft
yml	0.551475	1.625214	7.037911	-9.60719	1.075999	10.59874	-135.519	52.03953	257.1353	-377.467	2.47348
ycl	-0.0001	0.002905	0.009125	-0.01169	0.000707	0.007186	-0.2588	0.08705	0.286859	-3.03063	0.008878
ybgl	-0.00576	0.023381	0.022462	-0.03263	0.001683	0.026949	-0.74612	0.315202	0.987129	-11.575	0.061132
ywh	-0.58131	-0.86842	-12.983	12.31345	-0.92788	-8.70243	-7.404	81.43108	-159.008	-1156.12	2.473682
ybn	-0.69594	0.385476	1.754179	1.207523	-0.20054	-3.02735	-71.1445	1.443862	10.70229	131.0765	0.117139
ypt	-0.13394	0.247082	2.04839	3.152427	-0.10191	-3.04023	14.958	3.581663	7.98059	127.684	0.165383
yvg	0.481765	0.033004	1.324905	3.206575	-0.13308	-3.81963	-14.5237	10.45691	95.66477	1903.35	0.00605
yfr	0.046242	-0.14599	-0.26715	-1.09255	-0.59662	-4.947	-4.99228	0.039287	0.151812	-9.01166	10.28692
ydr	-0.02403	-0.01356	-0.01419	0.001894	-0.00086	-0.01387	0.441701	-0.06803	-0.26887	2.550492	-0.00292
ycw	0.000514	-0.01798	-0.04675	0.011306	-9.2E-05	-0.0056	0.513244	-0.09271	-0.28433	3.361337	-0.00614
ysg	0.01642	-0.07237	-0.24881	0.128281	-0.01228	-0.14837	1.546287	-0.30547	-0.98131	11.86553	-0.06294
ytr	0.234496	-0.00519	-0.02176	0.058437	-0.00177	0.044348	2.438517	-0.59433	0.191763	-0.55821	0.066014
yco	-0.00519	0.017065	0.00993	-0.24342	0.005547	0.126821	-1.01045	-0.70524	1.344465	10.47917	-0.01384
yws	-0.02176	0.00993	-0.01078	-0.77537	0.074963	0.092922	-2.35185	-0.8782	1.748238	12.18799	-0.03711
ycs	0.058437	-0.24342	-0.77537	1.856126	0.096374	0.615334	-2.11258	-0.87957	-1.51434	10.7227	-0.02452
ych	-0.00177	0.005547	0.074963	0.096374	0.043753	0.448182	0.776635	-0.25664	0.037613	1.973618	0.042898
ynt	0.044348	0.126821	0.092922	0.615334	0.448182	8.658133	12.38909	-1.23937	0.922929	-8.37223	-0.38793
ysp	2.438517	-1.01045	-2.35185	-2.11258	0.776635	12.38909	950.1352	-2.084	1.031736	11.14334	0.009075

TABLE V.2 T-RATIOS FOR PARAMETER ESTIMATES

Equation	pml	pcl	pbgl	pwh	pbn	ppt	pvg	pfr	cdr	ccw	csg	ctr	cco	pws	pcs	pch	pnt	psp	ln	lb	ir	ft
yml	29.6	16.2	33.1	-23.1	0.7	-13.9	-32.3	3.7	3.7	-21.9	-69.5	2.7	14.3	23.8	-17.1	20.3	21.3	57.3	52.9	-11.1	5.2	4.3
ycl	16.2	12.1	-17.4	-12.3	0.5	-10.5	-11.4	3.6	-0.3	-4.1	19.9	-0.2	8.6	9.8	-7.2	4.2	4.9	27.8	17.2	-25.8	5.4	7.1
ybgl	33.1	-17.4	30.5	-12.9	0.6	-6.9	-31.7	0.6	1.94	3.7	-19.5	-1.4	10.2	4.1	-2.9	1.6	2.8	35.3	20.7	-34.6	12.9	6.3
ywh	-23.1	12.3	-12.9	26.6	-0.2	-3.4	-1.5	-0.5	1.2	3.6	13.9	-1.2	-3.1	-14.6	10.8	-8.3	-8.5	62.3	-22.8	-23.6	3.57	12.2
ybn	0.7	0.5	0.6	-0.2	11.6	0.1	1.5	-0.9	-2.8	-1.6	-1.9	-5.1	5.4	10.4	2.7	-4.8	-7.5	13.1	18.2	31.8	2.1	6.3
ypt	-13.9	-10.5	-6.9	-3.4	0.1	13.4	8.1	0.4	-0.6	2.7	2.1	-0.7	2.6	8.8	4.7	-1.6	-4.9	34.2	14.3	32.6	2.9	-7.1
yvg	-32.3	-11.4	-31.7	-1.5	1.5	8.1	46.9	-2.3	-0.1	4.8	24.9	2.8	0.3	5.9	6.2	-2.8	-8.3	37.6	64.3	182.6	0.1	32.0
yfr	3.7	3.6	0.6	-0.5	-0.9	0.4	-2.3	4.7	2.4	-0.4	-0.4	0.4	-2.7	-2.1	-2.8	-16.5	-14.0	0.67	0.5	-4.1	329.5	-3.6
ydr	3.7	-0.3	1.94	1.2	-2.8	-0.6	-0.1	2.4	3.1	0.1	-2.5	-7.7	-7.8	-3.6	0.2	-0.9	-1.6	-22.8	-16.	22.9	-1.9	97.1
ycw	-21.9	-4.1	3.7	3.6	-1.6	2.7	4.8	-0.4	0.1	6.8	-0.1	0.2	-11.2	-12.3	1.3	-0.1	-0.7	-28.8	-16.5	27.8	-3.6	12.5
ysg	-69.5	19.9	-19.5	13.9	-1.9	2.1	24.9	-0.4	-2.5	-0.1	25.1	1.9	-16.9	-21.6	3.5	-3.5	-4.3	-37.9	-22.8	39.4	-14.8	0.91
ytr	2.7	-0.2	-1.4	-1.2	-5.1	-0.7	2.8	0.4	-7.7	0.2	1.9	8.54	-0.5	-0.9	0.8	-0.3	0.7	-44.9	2.7	-1.1	9.5	3.8
yco	14.3	8.6	10.2	-3.1	5.4	2.6	0.3	-2.7	-7.8	-11.2	-16.9	-0.5	2.4	0.6	-6.5	1.6	3.9	-89.1	31.8	35.4	-3.3	13.2
yws	23.8	9.8	4.1	-14.6	10.4	8.8	5.9	-2.1	-3.6	-12.3	-21.6	-0.9	0.6	-0.1	-4.4	2.6	0.6	-38.6	14.4	14.3	-3.1	-5.9
ycs	-17.1	-7.2	-2.9	10.8	2.7	4.7	6.2	-2.8	0.2	1.3	3.5	0.8	-6.5	-4.4	2.4	1.7	1.2	-30.6	-9.9	9.9	-1.6	3.7
ych	20.3	4.2	1.6	-8.3	-4.8	-1.6	-2.8	-16.5	-0.9	-0.1	-3.5	-0.3	1.6	2.6	1.7	4.4	7.5	-86.0	2.4	-17.7	27.2	4.7
ynt	21.3	4.9	2.8	-8.5	-7.5	-4.9	-8.3	-14.0	-1.6	-0.7	-4.3	0.7	3.9	0.6	1.2	7.5	13.0	-46.2	6.4	-8.4	-27.4	-12.3
ysp	57.3	27.8	35.3	62.3	13.1	34.2	37.6	0.67	-22.8	-28.8	-37.9	-44.9	-89.1	-38.6	-30.6	-86.0	-46.2	-40.8		-5.8	0.3	3.9

TABLE V.3 ESTIMATED ELASTICITIES UNDER THE ASSUMPTIONS OF HOMOGENEITY AND

Equation	pml	pcl	pbgl	pwh	pbn	ppt	pvg	pfr	cdr	ccw	csg	ctr	cco	pws	pcs	pch	pnt	psp	ln	lb	ir	ft
yml	1.8	1.8	2.1	-1.8	0.0	-0.3	-1.5	0.1	0.2	-1.2	-1.3	0.1	0.4	0.1	-0.1	0.1	0.1	-0.5	0.3	0.3	0.0	0.0
ycl	3.4	7.8	-4.9	-4.0	0.1	-0.8	-2.0	0.2	0.0	-1.0	1.4	0.0	0.8	0.1	-0.1	0.1	0.1	-1.1	0.5	0.4	-0.5	0.1
ybgl	5.6	-6.6	12.4	-3.9	0.1	-0.7	-6.8	0.1	0.5	1.0	-1.9	-0.2	1.2	0.0	-0.1	0.0	0.1	-0.6	0.4	0.3	-0.4	0.2
ywh	-4.4	-5.1	-3.7	12.4	0.0	-0.3	-0.3	0.0	0.2	0.8	1.0	-0.1	-0.3	-0.2	0.2	-0.1	-0.1	0.0	0.6	-0.3	-0.2	0.0
ybn	0.3	0.3	0.4	-0.1	8.8	0.0	0.8	-0.3	-2.1	-1.3	-0.5	-2.0	2.1	0.4	0.3	-0.3	-0.8	-6.1	0.2	0.3	0.4	0.0
ypt	-5.3	-7.3	-4.9	-1.9	0.1	9.3	4.8	0.2	-0.5	2.2	0.8	-0.4	1.3	0.4	0.8	-0.2	-0.7	1.2	0.4	0.2	0.4	0.0
yvg	-1.8	-1.3	-3.2	-0.1	0.1	0.3	4.9	-0.1	0.0	0.5	0.8	0.1	0.0	0.0	0.1	0.0	-0.1	-0.1	0.1	0.3	0.6	0.0
yfr	0.2	0.4	0.1	0.0	-0.1	0.0	-0.2	0.4	0.3	0.0	0.0	0.0	-0.2	0.0	-0.1	-0.2	-0.3	-0.1	0.0	0.0	0.0	0.8
ydr	-2.5	0.3	-2.4	-1.3	2.7	0.4	0.1	-1.2	-5.3	0.0	1.1	5.0	5.4	0.2	0.0	0.1	0.3	-2.7	0.6	0.6	-0.6	0.1
ycw	8.5	3.6	-2.7	-2.4	0.9	-0.9	-2.7	0.1	0.0	-6.9	0.0	-0.1	4.0	0.4	-0.1	0.0	0.1	-1.8	0.5	0.3	-0.5	0.1
ysg	12.9	-7.5	7.4	-4.1	0.5	-0.4	-6.6	0.1	0.8	0.0	-5.7	-0.4	3.5	0.5	-0.3	0.2	0.3	-1.2	0.3	0.3	-0.4	0.2
ytr	-1.9	0.2	1.8	1.3	5.7	0.6	-3.0	-0.3	10.7	-0.2	-1.2	-10.5	0.4	0.1	-0.2	0.0	-0.2	-3.3	1.1	-0.1	0.0	-0.3
yco	-5.3	-6.3	-7.0	1.9	-3.1	-1.1	-0.2	1.0	5.9	8.5	5.3	0.2	-1.4	0.0	0.9	-0.1	-0.5	1.3	1.3	-0.6	-0.5	0.1
yws	-7.5	-6.4	-2.2	9.2	-4.5	-3.0	-2.6	0.6	2.0	7.1	5.9	0.3	-0.3	0.0	1.0	-0.6	-0.1	1.0	0.5	-0.3	-0.2	0.1
ycs	8.4	6.7	2.6	-7.2	-2.6	-3.7	-5.2	2.0	-0.2	-1.4	-2.5	-0.7	5.4	0.7	-1.9	-0.6	-0.6	0.7	0.4	0.2	-0.1	0.0
ych	-8.6	-3.7	-1.2	4.9	3.9	1.1	2.0	10.1	0.9	0.1	2.2	0.2	-1.1	-0.6	-0.9	-2.5	-4.2	-2.5	1.2	0.0	-0.2	-0.5
ynt	-8.4	-3.8	-2.0	4.6	5.9	3.3	5.6	8.4	1.5	0.6	2.6	-0.5	-2.6	-0.1	-0.6	-2.6	-8.1	-3.9	0.6	-0.1	0.1	0.5
ysp	76.5	96.4	38.4	2.8	97.7	-11.5	15.2	6.0	-33.2	-41.5	-19.4	-18.4	14.5	1.4	1.4	-3.2	-8.3	-214.9	0.7	-0.1	-0.1	0.0

A further step in examining the results is to look at the estimated elasticities. A quick inspection of the last row of table V.3 reveals a very serious problem - most of the demand elasticities for superphosphate are unreasonably high. For example, the demand elsaticities of superphosphate with respect to its own price and prices of milk, cattle, kids and lambs, beans are –214.9, 76.5, 96.4, 38.4, and 97.7 respectively. Elasticities of such magnitude are a clear indication that something is wrong with the model. Recall that most of the superphosphate equation coefficients were not estimated directly. They were recovered by using symmetry and homogeneity conditions. This means that they have essentially been forced to take the high values that yielded the unreasonably high elesticities. These results indicate that the Rao joint test used to check the validity of the symmetry and homogeneity conditions may be invalid. As McGuirk, *et al*. have shown, unless an empirical model is statistically adequate, any theoretical assumption test may be either invalid or misleading.

In the following section, the statistical adequacy of the model is discussed based on the results from the battery of tests suggested by McGuirk *et al*

V.3 **The Statistical Adequacy of the Model**

As noted in the previous chapter, the approach proposed by McGuirk, *et al*, requires that, before imposing and/or testing any theoretical assumption, the unrestricted model is estimated and tested to see if all the underlying statistical assumptions of the linear regression are met.

In this study, the unrestricted model, whose underlying statistical assumptions first should be checked, is simply a multiequation linear regression model (MLRM). The MLRM assumptions and their implications for the statistical adequacy of the model were presented in detail in Chapter IV.

A battery of tests proposed by McGuirk, *et al*, was used in this study to check if the underlying statistical assumptions of the linear regression are met. The resulting p-values from the tests are interpreted as the weight of evidence against the assumptions being tested. P-values lower than 0.05 are considered as weak evidence against the null and values less than 0.01 as strong evidence. All tests were conducted using ANUSAM, An Interactive Regression Program, written in GAUSS by Robertson, McGuirk, and Spanos. The tests' results are presented in Table V.4.

The full-system p-values indicate violation of all assumptions, except perhaps autocorrelaton. Specifically, the system tests of individual misspecification indicate problems with normality, functional form, static heteroskedasticity, and parameter instability.

The joint tests seem to help pinpoint the possible problems in the model. The full-system joint conditional-mean test suggests that the misspecification problems may stem from parameter instability and/or inappropriate functional form, rather than misspecified dynamics. The relative magnitude of the p-values on separate test components in the joint-mean tests provides evidence that parameter instability may be the main problem; the parameter instability p-value is lower than those for linearity and autocorrelation.

In cases when a statistical regression model exhibits strong parameter instability McGuirk, *et al,* suggest the incorporation of some measure of the phenomena responsible for the structural change as the best means of modeling change. As noted in Chapter IV, soil quality, weather and climate conditions, pasture accessibility, and tree productivity are among the factors that most likely might be responsible for the parameter instability. While the inclusion of these factors in the model was highly desirable, the lack of information on them leaves little room for respecification.

TABLE V.4 P-VALUES FOR FULL-SYSTEM MISSPECIFICATION TESTS

The Quadratic Model

Individual Tests		Joint Tests	
Normality	0.0000	Overall Mean Test:	
Linearity:		Parameter Stability	0.0001
		Linearity	0.0109
RESET3	0.0013	Autocorrelation	0.0332
Kolmogorov-Gabor3	0.0301		
		Overall Variance Test:	
Heteroskedasticity:			
		Parameter Stability	0.0045
Static:		Static Heteroscedasticity	0.0001
RESET3	0.0001	Dynamic Heteroscedasticity	0.0421
Kolmogorov-Gabor3	0.0031		
Dynamic	0.0912		
Autocorrelation	0.1208		
Parameter Stability:			
Variance	0.0101		
Mean	0.0095		

A last attempt to acquire a statistically adequate model was made by using the translog functional form. As with the quadratic model, the translog model statistical tests were conducted using ANUSAM, An Interactive Regression Program, written in GAUSS by Robertson, McGuirk, and Spanos. The tests' results are presented in Table V.5

Unfortunately, in the case of the translog model, the full-system p-values also indicate violation of all assumptions, except perhaps autocorrelaton. Specifically, the system tests of individual misspecification indicate problems with normality, functional form, static heteroskedasticity, and parameter instability.

Again, the full-system joint conditional-mean test suggests that the misspecification problems may stem from parameter instability and/or inappropriate functional form, rather than misspecified dynamics.

The relative magnitude of the p-values on separate test components in the joint-mean tests provides evidence that parameter instability may be the main problem; the parameter instability p-value is lower than those for linearity and autocorrelation.

The inability to construct a statistically adequate model, given the lack of information, deprives us from rigorously testing the homogeneity and symmetry conditions. As noted earlier, parameter estimators may not have a normal distribution when the model is not statistically adequate, which means that the F-statistic used to test the homogeneity and symmetry conditions may not actually have a Fisher distribution.

As a way to circumvent the lack of a definite proof about the estimator distributions, a sub-sample method was used in this study. In the next section the sub-sample method results are presented.

TABLE V.5 P-VALUES FOR FULL-SYSTEM MISSPECIFICATION TESTS

The Translog Model

Individual Tests		Joint Tests	
Normality	0.0000	Overall Mean Test:	
Linearity:		Parameter Stability	0.0001
		Linearity	0.0109
RESET3	0.0011	Autocorrelation	0.0332
Kolmogorov-Gabor3	0.0121		
		Overall Variance Test:	
Heteroskedasticity:			
		Parameter Stability	0.0045
Static:		Static Heteroscedasticity	0.0001
RESET3	0.0000	Dynamic Heteroscedasticity	0.0421
Kolmogorov-Gabor3	0.0021		
Dynamic	0.3723		
Autocorrelation	0.1125		
Parameter Stability:			
Variance	0.0101		
Mean	0.0095		

V.4 The Sub-Sample Method

In order to acquire information on the distribution of parameter estimators, 1,000 randomly picked sub-samples from the initial sample were drawn preserving the stratification of the original sample. That was done by randomly selecting one observation per segment. Each sub-sample, comprised of 183 observations, was used to estimate the parameters of the MLRM using the ordinary least squares method. The mean, the minimal, and the maximal values of parameter estimates are presented in Table V.6.

A comparison of the traditional approach results with the results of Table V.6 reveals that around 72 percent of estimates from the traditional approach lay outside of the interval defined by the minimal and the maximal values of respective sub-sample estimates. This fact strongly indicates that the homogeneity and/or symmetry conditions, which were imposed on the model *a priori*, are not supported by the data.

Obviously, the above comparison cannot reveal which of the two conditions is responsible for the discrepancy among the estimates from the two approaches. An answer to this question can be given by an inspection of Table V.6 results. Among the presumably symmetric pairs of parameters, 64 percent of them have mean values close to each other.[7] Another 18 percent, while having mean values not close to each other, have overlapping confidence intervals.[8] These figures indicate that the symmetry is less likely to be the main culprit behind the aforementioned discrepancy.

In conclusion, it can be said that although a definite proof on the validity of the homogeneity assumption would require rigorous statistical tests based on a statistically

[7] For example, while the mean of Bmlcl is 0.029994, the mean of Bclml is 0.026843

[8] For example, while the estimates of Bmlpt range from -20.55 to 23.09386, the estimates of Bptml range from -5.44528 to -1.36108. The respective means are 1.566802 and -3.35373.

adequate model, the above comparisons strongly suggest that the validity of this assumption is not supported by the data. In view of the fact that semi-subsistence farming dominates in Albania, this finding is not surprising.

As noted in Chapter III, instead of profit maximization, utility maximization is more likely to have been the main objective of Albanian farmers. Unfortunately, the information on remittances, and on the work hours and purchased inputs utilized for each crop, which is essential for the empirical estimation of a utility maximizing peasant household model, was not available for this study. However, it should be noted that even the above information is not sufficient to acquire a statistically adequate model. Data about farm characteristics such as soil quality, climate, weather, and so forth should have been collected in order to model structural change.

Given the data limitations, the only alternative left for describing the Albanian farmers' supply response is to rely on the elasticities estimated through the sub-sample method as a rough approximation of real elasticities of output supply and input demand. Obviously, the supply and demand functions estimated through the sub-sample method do not guarantee any link between the theoretical and the empirical model. Thus, the supply and demand functions estimated through the sub-sample method can be considered simply as a summary of the data, acquired through the least squares method. While it is impossible to statistically determine how close the estimated elsticities are to the real supply and input demand elasticities, an examination of the results can reveal whether the estimates are statistically reliable and make sense from an economic point of view. The estimated elasticities and their 95 percent confidence intervals are presented in Table V.7.

TABLE V.6 ESTIMATED PARAMETRS UNDER NO ASSUMPTION - The sub-sample method

Equation		pml	pcl	pbgl	pwh	pbn	ppt	pvg	pfr	cdr	ccw	csg
vml	MIN	3.01822	-0.02377	-0.07561	-91.41390	-19.17930	-20.55100	-30.74860	-19.79710	-0.31451	-0.37018	-1.68375
	MEAN	21.09129	0.02999	0.33801	-37.23970	-2.93960	1.56680	-14.14940	-4.93343	-0.06249	-0.09829	-0.49718
	MAX	38.55189	0.08092	0.78004	4.36810	11.46701	23.09386	0.78022	8.27802	0.18118	0.18802	0.77706
	MIN	-0.03711	-0.00016	-0.00233	-0.24791	-0.05057	-0.08119	-0.06653	-0.06423	-0.00152	-0.00117	-0.00299
vcl	MEAN	0.02684	0.00011	-0.00065	-0.05723	-0.00093	0.02001	-0.01138	-0.00645	-0.00030	-0.00010	0.00141
	MAX	0.09432	0.00031	0.00074	0.09779	0.05972	0.12637	0.04147	0.05718	0.00071	0.00110	0.00584
	MIN	0.16777	-0.00115	0.00517	-0.76321	-0.17846	-0.25125	-0.40313	-0.13381	-0.00334	-0.00181	-0.01577
vbgl	MEAN	0.34081	-0.00070	0.00852	-0.31592	-0.04503	-0.04163	-0.24496	-0.01130	-0.00075	0.00092	-0.00303
	MAX	0.51750	-0.00023	0.01260	0.04805	0.06672	0.13373	-0.12166	0.13123	0.00140	0.00389	0.00866
	MIN	-64.60660	-0.16091	-0.94772	68.41571	-35.45970	-35.53610	-20.56300	-20.58900	-0.29571	-0.51085	-1.13823
vwh	MEAN	-36.02440	-0.04660	-0.42702	148.57030	-1.30773	-0.33105	-0.25774	0.26141	0.08684	-0.06440	0.43079
	MAX	-4.81265	0.03448	0.17565	206.28820	20.81187	36.32630	22.16295	16.64066	0.50160	0.40505	2.25577
	MIN	-0.67368	-0.00599	-0.02455	-6.35544	0.84886	-5.24558	-2.62279	-1.46078	-0.04931	-0.03798	-0.15442
vbn	MEAN	1.39530	-0.00018	0.02136	-0.58689	2.59088	-1.89646	-1.00026	0.17597	-0.00879	-0.00499	-0.01116
	MAX	3.39715	0.00476	0.09187	4.37743	4.63645	1.03127	0.65484	2.14638	0.02544	0.03007	0.13338
	MIN	-5.44528	-0.01449	-0.07427	-8.18769	-0.65202	0.38807	-0.86847	-2.42094	-0.02881	-0.03087	-0.17539
vpt	MEAN	-3.35373	-0.00700	-0.02642	-2.28744	0.82178	3.61088	1.43862	0.25345	0.00234	0.00512	-0.00715
	MAX	-1.36108	-0.00064	0.02275	2.52445	2.80503	6.81942	4.05398	2.76323	0.03552	0.04070	0.16114
	MIN	-17.82840	-0.02861	-0.34117	-16.74580	-3.43571	-6.12199	11.27668	-6.44970	-0.10380	-0.07211	-0.18169
vvg	MEAN	-12.18660	-0.01271	-0.22063	-2.53614	0.73592	2.90293	15.41742	-1.83536	-0.01520	0.01321	0.28286
	MAX	-5.80379	0.00454	-0.09948	12.93707	5.42997	11.57839	20.55323	4.08318	0.07502	0.09783	0.66263
	MIN	-0.74886	-0.00251	-0.03461	-4.03249	-1.13742	-1.40419	-1.36313	-1.02743	-0.01724	-0.02106	-0.09711
vfr	MEAN	0.34526	0.00096	-0.00378	-0.48715	-0.21181	0.15084	-0.26418	0.19058	0.00259	-0.00164	-0.00704
	MAX	1.48727	0.00510	0.01984	3.36703	0.85718	1.88037	0.92783	1.53716	0.02426	0.01430	0.08216
	MIN	-0.04322	-0.00026	-0.00108	-0.19169	-0.06124	-0.09348	-0.06388	-0.04716	-0.00082	-0.00087	-0.00382
vdr	MEAN	0.01661	-0.00003	0.00026	-0.00067	-0.01069	-0.01014	-0.00281	0.00753	0.00029	0.00001	0.00056
	MAX	0.09047	0.00016	0.00175	0.15422	0.03892	0.07114	0.04790	0.05882	0.00135	0.00097	0.00534

TABLE V.6 (Continued)

Equation		ctr	cco	pws	pcs	pch	pnt	psp	ln	lb	ir	ft
	MIN	-2.74004	-1.39137	-56.98400	-35.00170	-5.67302	-36.03920	-122.34800	45.07980	221.75530	-4718.19101	-2.11141
vml	MEAN	0.29614	-0.19842	-0.60530	-3.96207	-0.21118	-10.50550	-22.12300	52.24188	255.59600	-2564.54243	2.40094
	MAX	3.87191	0.86303	55.92366	23.57555	4.66507	16.90484	82.26683	59.46806	305.49460	-1593.64010	5.66941
	MIN	-0.01099	-0.00396	-0.21315	-0.11159	-0.01759	-0.09697	-0.52210	0.05965	0.17199	-4.05428	-0.00125
vcl	MEAN	-0.00207	0.00113	0.00865	0.00806	0.00091	-0.01866	-0.15285	0.08760	0.28178	-3.00720	0.00893
	MAX	0.00625	0.00496	0.18973	0.11362	0.02256	0.06471	0.32496	0.11789	0.41109	-2.15476	0.02254
	MIN	-0.01874	-0.01225	-0.61654	-0.22878	-0.04445	-0.30912	-1.04626	0.24961	0.68344	-14.53010	0.02840
vhσl	MEAN	0.00342	-0.00049	-0.02091	0.01521	-0.00490	-0.03331	0.05627	0.31871	0.99142	-11.49390	0.06067
	MAX	0.02409	0.00889	0.43840	0.36202	0.03544	0.20572	0.96967	0.41158	1.40405	-9.18047	0.09407
	MIN	-4.90112	-2.55847	-97.66050	-47.01060	-11.45380	-47.67220	-120.21500	68.46471	-216.84100	-1605.09000	-2.99496
vwh	MEAN	-0.65383	-0.10091	-15.73510	-4.12198	-0.65565	-0.76558	28.82481	81.18088	-155.53700	-1172.48000	2.59451
	MAX	3.42245	1.84072	53.15949	40.97386	8.81433	38.22053	272.96240	98.79656	-98.05850	-776.37600	9.35761
	MIN	-0.39108	-0.00910	-5.46706	-3.64504	-0.72782	-6.89656	-12.89670	0.67268	6.61585	99.21682	-0.29831
vhn	MEAN	-0.14379	0.12065	-0.56067	0.34925	0.00112	-2.57199	-1.63273	1.44824	11.05882	130.92070	0.14259
	MAX	0.08982	0.30507	5.31022	4.65308	0.72778	0.47932	11.90125	2.35927	15.97484	173.25940	0.66233
	MIN	-0.27224	-0.13212	-6.24440	-3.24105	-0.40363	-2.92850	-14.78920	2.71553	2.78690	89.00737	-0.21794
vnt	MEAN	-0.05806	0.03368	-0.57841	0.47548	0.13470	-0.20150	-0.58389	3.56398	8.00951	127.67300	0.19515
	MAX	0.19035	0.18399	3.92971	4.54864	0.72841	2.80032	14.34010	4.60810	13.66434	178.30980	0.63922
	MIN	-0.85078	-0.45738	-17.15990	-10.56700	-1.80429	-10.21990	-45.21090	8.47305	84.55265	1830.41800	-1.02470
vvσ	MEAN	0.05810	-0.07170	-0.21431	-0.07868	-0.18811	-2.70573	-7.69253	10.44370	95.09406	1903.99100	0.01523
	MAX	0.83123	0.33234	12.79140	9.30378	1.30440	4.02290	29.91407	12.36340	107.50060	1977.90000	0.99501
	MIN	-0.20724	-0.10054	-3.68725	-1.94797	-0.64707	-2.01211	-10.01270	-0.62610	-2.35169	-28.65750	10.06666
vfr	MEAN	-0.01451	-0.03133	-0.55252	-0.07550	-0.12603	-0.34208	-1.97901	0.03298	0.09887	-9.05669	10.28860
	MAX	0.13458	0.05872	3.17147	1.77270	0.24490	1.22568	6.75522	0.54109	2.90982	7.90448	10.51212
	MIN	-0.01050	-0.00590	-0.17404	-0.11770	-0.01566	-0.08139	-0.37065	-0.08734	-0.36875	-1.25369	-0.01397
vdr	MEAN	-0.00431	-0.00242	-0.02108	0.00390	0.00245	-0.00556	0.02666	-0.06769	-0.26704	-0.51333	-0.00240
	MAX	0.00382	0.00161	0.14195	0.12704	0.01929	0.08268	0.36889	-0.04562	-0.16318	-0.38888	0.01224

TABLE V.6 (Continued)

Equation		pml	pcl	pbgl	pwh	pbn	ppt	pvg	pfr	cdr	ccw	csg
	MIN	-0.18454	-0.00029	-0.00112	-0.11581	-0.04756	-0.14544	-0.04845	-0.06585	-0.00102	-0.00038	-0.00510
vcw	MEAN	-0.11472	-0.00006	0.00036	0.06104	0.00166	-0.00282	0.00621	0.00084	0.00005	0.00067	0.00079
	MAX	-0.03799	0.00016	0.00185	0.21924	0.05429	0.08876	0.07965	0.06512	0.00112	0.00193	0.00540
	MIN	-0.96511	0.00032	-0.00910	0.04800	-0.08626	-0.12105	0.12900	-0.12376	-0.00186	-0.00284	0.00303
vsg	MEAN	-0.81669	0.00079	-0.00532	0.37334	0.02862	0.03453	0.23729	0.00994	0.00018	-0.00029	0.01554
	MAX	-0.67351	0.00119	-0.00205	0.89922	0.13204	0.22515	0.38160	0.14052	0.00216	0.00211	0.02770
	MIN	0.03268	-0.00023	-0.00085	-0.45658	-0.09879	-0.13247	-0.12307	-0.21660	-0.00486	-0.00479	-0.02239
vtr	MEAN	0.18254	0.00031	0.00247	-0.06719	0.02782	0.07418	0.00087	-0.04676	-0.00198	-0.00210	-0.01035
	MAX	0.33999	0.00087	0.00617	0.38559	0.16108	0.32039	0.14790	0.09855	0.00034	0.00017	0.00254
	MIN	-0.20482	-0.00097	-0.00698	-0.66618	-0.24254	-0.43331	-0.21618	-0.27169	-0.00664	-0.00446	-0.01219
vco	MEAN	0.02009	-0.00001	-0.00079	-0.02070	-0.03265	-0.01217	-0.00781	0.01456	-0.00268	-0.00009	0.00758
	MAX	0.26907	0.00087	0.00500	0.65441	0.19530	0.31860	0.23734	0.25804	0.00187	0.00456	0.02518
	MIN	0.20834	-0.00067	-0.00699	-2.46184	-0.27408	-0.34782	-0.28418	-0.43129	-0.01000	-0.01095	-0.07149
vws	MEAN	0.84098	0.00081	0.00285	-1.31995	0.16488	0.28372	0.16753	-0.04151	-0.00327	-0.00389	-0.03573
	MAX	1.35137	0.00254	0.01133	-0.25416	0.61477	0.85389	0.50920	0.38368	0.00410	0.00363	-0.00629
	MIN	-1.58530	-0.00317	-0.01573	-0.25686	-0.33524	-0.27345	-0.05860	-0.58988	-0.01192	-0.01046	-0.03252
vcs	MEAN	-1.01776	-0.00102	-0.00393	1.54377	0.13981	0.39303	0.36181	-0.07410	0.00047	0.00074	0.00694
	MAX	-0.58099	0.00122	0.00916	3.27420	0.56914	1.25522	0.80309	0.32061	0.01119	0.01129	0.03966
	MIN	0.00001	-0.00015	-0.00090	-0.22466	-0.08084	-0.15506	-0.08300	-0.13111	-0.00129	-0.00086	-0.00489
vch	MEAN	0.00767	0.00005	0.00032	-0.09180	-0.01649	-0.02038	-0.02566	-0.01377	-0.00016	0.00004	-0.00046
	MAX	0.02204	0.00024	0.00190	0.05702	0.03829	0.10721	0.01880	-0.03959	0.00075	0.00111	0.00376
	MIN	0.64249	-0.00127	-0.00831	-2.08853	-0.93870	-1.41314	-0.93283	-1.14566	-0.01089	-0.00997	-0.04498
vnt	MEAN	1.19840	0.00055	0.00449	-0.87870	-0.30603	-0.42025	-0.50074	-0.60209	-0.00232	-0.00021	-0.00825
	MAX	1.99920	0.00250	0.01750	0.56514	0.29172	0.66922	-0.05994	-0.06020	0.00713	0.00892	0.03217
	MIN	0.91067	-0.00066	-0.01016	-2.68535	-1.16505	-1.80731	-1.34195	-1.47922	-0.01321	-0.01144	-0.06764
vsp	MEAN	1.61038	0.00142	0.00563	-1.19223	-0.35760	-0.42574	-0.82762	-0.75340	-0.00154	-0.00083	-0.01050
	MAX	2.49297	0.00376	0.02247	0.34099	0.43854	1.03171	-0.36544	-0.21695	0.01168	0.01038	0.04091

TABLE V.6 (Continued)

Equation		ctr	cco	pws	pcs	pch	pnt	psp	ln	lb	ir	ft
	MIN	-0.00989	-0.00815	-0.14060	-0.13496	-0.02724	-0.08361	-0.40516	-0.12007	-0.41348	2.55813	-0.01800
vcw	MEAN	-0.00091	-0.00250	0.00955	-0.00004	-0.00426	-0.00549	0.03909	-0.09379	-0.28441	3.34825	-0.00535
	MAX	0.00913	0.00270	0.17382	0.13113	0.01288	0.08360	0.49527	-0.06976	-0.15169	4.35487	0.00809
	MIN	-0.02415	-0.01579	-0.37034	-0.26143	-0.03957	-0.17328	-0.89708	-0.39596	-1.39696	9.69376	-0.09641
vsg	MEAN	-0.00342	-0.00682	0.02555	0.01518	0.00039	0.01959	-0.06845	-0.30912	-0.98226	11.72123	-0.06186
	MAX	0.01707	0.00471	0.51897	0.23177	0.03589	0.25862	0.81308	-0.24153	-0.68291	14.16940	-0.02777
	MIN	-0.02104	-0.00834	-0.39759	-0.25575	-0.06092	-0.20993	-1.15248	-0.77004	1.01621	8.14584	-0.04856
vtr	MEAN	0.00205	0.00048	0.04041	-0.01216	-0.00679	0.02119	-0.25469	-0.70639	1.32652	10.52323	-0.01430
	MAX	0.02505	0.01440	0.49167	0.31720	0.05231	0.23145	0.83081	-0.64623	1.67054	12.59651	0.01701
	MIN	-0.01066	-0.02149	-0.55494	-0.51568	-0.10418	-0.39114	-1.67253	-0.69578	-0.25647	-5.37447	0.01847
vco	MEAN	0.02217	-0.00262	0.03952	-0.02689	-0.01216	-0.07447	0.03461	-0.59456	0.17953	-0.52406	0.06781
	MAX	0.05881	0.01704	0.81538	0.46924	0.07029	0.38911	1.75447	-0.49581	0.80372	4.45153	0.11406
	MIN	-0.04846	-0.03706	-0.94077	-0.73471	-0.14626	-0.50832	-3.61541	-1.19598	0.72134	6.83436	-0.13585
vws	MEAN	0.00948	0.00075	0.27162	0.01239	-0.00348	0.11608	-0.72625	-0.87717	1.68708	12.39128	-0.03932
	MAX	0.07792	0.04015	1.73224	0.66067	0.17076	0.95650	2.39336	-0.66616	2.78441	19.02224	0.06277
	MIN	-0.08597	-0.07178	-1.57423	-0.86219	-0.27865	-0.66303	-2.67642	-1.12059	-2.95500	2.84262	-0.15671
vcs	MEAN	0.01768	-0.02462	0.01925	0.20503	-0.02587	0.20791	0.61723	-0.88833	-1.47794	10.42707	-0.02496
	MAX	0.13052	0.01006	1.62520	1.14175	0.09365	1.01380	4.46731	-0.64577	-0.22081	21.45142	0.08450
	MIN	-0.01296	-0.00488	-0.10936	-0.09015	-0.01726	-0.04510	-0.50446	0.23921	-0.09168	-2.86477	0.02689
vch	MEAN	-0.00147	-0.00007	0.03734	0.02986	0.00573	0.03353	-0.02833	0.25704	0.03535	-1.95087	0.04331
	MAX	0.00578	0.00473	0.16015	0.12952	0.02605	0.11931	0.44987	0.27402	0.19072	-0.96358	0.05994
	MIN	-0.06771	-0.03115	-1.09802	-0.77441	-0.10802	0.00004	-4.01202	0.99263	-0.25140	-16.12550	-0.53178
vnt	MEAN	-0.00199	0.00833	0.24771	0.28798	0.07304	0.82806	0.54378	1.23755	0.89828	-8.18604	-0.38494
	MAX	0.08197	0.04848	1.25120	1.58978	0.25994	1.60154	4.36744	1.48528	2.10393	-0.74019	-0.25986
	MIN	-0.11764	-0.05408	-1.39155	-1.02649	-0.19531	-0.14683	-6.40793	1.84860	-0.44326	-21.75380	-0.20033
vsn	MEAN	-0.01517	0.00166	0.30278	0.35290	0.08623	0.61880	0.64777	2.11566	1.05897	-11.36900	0.00013
	MAX	0.06511	0.05712	1.77310	1.54368	0.31403	1.52413	5.12832	2.48472	3.07583	-0.35163	0.15114

TABLE V.7 ESTIMATED ELASTICITIES UNDER NO ASSUMPTION - The sub-sample method
(95% confidence intervals)

Equation	pm	pcl	pbgl	pwh	pbn	ppt	pvg	pfr	cdr	ccw	csg	ctr	cco	pws	pcs	pch	pnt	psp	ln	lb	ir	ft
L bound	0.09	0.02	0.11	-0.38	-0.24	-0.14	-0.37	-0.24	-0.25	-0.32	-0.25	-0.14	-0.19	-0.33	-0.22	-0.21	-0.28	-0.29	0.23	0.26	-0.35	0.00
YML	0.18	0.17	0.26	-0.21	-0.06	0.02	-0.22	-0.09	-0.07	-0.12	-0.09	0.03	-0.04	-0.01	-0.04	-0.01	-0.11	-0.08	0.25	0.29	-0.31	0.03
U bound	0.27	0.34	0.45	-0.08	0.11	0.17	-0.11	0.07	0.12	0.08	0.05	0.19	0.11	0.28	0.12	0.19	0.06	0.16	0.28	0.32	-0.29	0.05
L bound	-0.16	-0.08	-1.45	-1.20	-0.91	-0.56	-0.91	-1.05	-1.26	-1.27	-0.37	-1.01	-0.42	-1.11	-0.79	-0.82	-0.92	-1.75	0.43	0.29	-0.59	0.03
YCL	0.29	0.81	-0.63	-0.41	-0.02	0.29	-0.23	-0.15	-0.43	-0.15	0.34	-0.30	0.31	0.10	0.10	0.07	-0.24	-0.66	0.54	0.41	-0.50	0.14
U bound	0.73	1.81	0.15	0.35	0.88	1.17	0.42	0.75	0.54	0.92	1.09	0.52	1.01	1.28	0.96	1.04	0.43	0.46	0.65	0.53	-0.39	0.25
L bound	0.49	-0.51	1.15	-0.85	-0.61	-0.51	-1.28	-0.38	-0.58	-0.21	-0.44	-0.31	-0.43	-0.77	-0.33	-0.45	-0.51	-0.42	0.31	0.21	-0.42	0.11
YBGL	0.69	-0.92	1.56	-0.43	-0.22	-0.11	-0.91	-0.05	-0.20	0.27	-0.14	0.09	-0.03	-0.05	0.04	-0.07	-0.08	0.05	0.37	0.27	-0.36	0.18
U bound	0.91	-1.31	2.04	-0.09	0.14	0.19	-0.59	0.31	0.17	0.75	0.19	0.43	0.31	0.51	0.46	0.34	0.29	0.52	0.43	0.34	-0.30	0.24
L bound	-0.78	-0.87	-1.01	1.01	-0.63	-0.41	-0.36	-0.33	-0.31	-0.61	-0.17	-0.54	-0.48	-0.98	-0.52	-0.68	-0.48	-0.35	0.56	-0.37	-0.31	-0.02
YWH	-0.50	-0.43	-0.54	1.37	-0.04	-0.01	-0.01	0.01	0.16	-0.13	0.13	-0.12	-0.04	-0.24	-0.07	-0.07	-0.01	0.16	0.64	-0.29	-0.25	0.05
U bound	-0.23	0.08	-0.12	1.73	0.45	0.45	0.36	0.34	0.65	0.34	0.47	0.29	0.41	0.43	0.41	0.52	0.39	0.72	0.73	-0.22	-0.21	0.12
L bound	0.03	-0.51	-0.11	-0.48	0.69	-1.08	-0.88	-0.41	-0.94	-0.75	-0.49	-0.91	0.21	-0.98	-0.53	-0.64	-1.25	-0.81	0.12	0.25	0.35	-0.03
YBN	0.30	-0.03	0.42	-0.08	1.36	-0.56	-0.40	0.08	-0.25	-0.15	-0.05	-0.41	0.66	-0.13	0.09	0.00	-0.65	-0.14	0.18	0.32	0.44	0.04
U bound	0.61	0.48	1.09	0.33	2.09	-0.11	0.06	0.59	0.38	0.51	0.41	0.05	1.19	0.63	0.78	0.73	-0.11	0.63	0.24	0.41	0.53	0.13
L bound	-0.99	-1.61	-1.04	-0.78	-0.09	0.49	-0.78	-0.09	-0.49	-0.52	-0.51	-0.58	-0.25	-0.81	-0.49	-0.31	-0.47	-0.75	0.34	0.13	0.32	-0.01
YPT	-0.68	-0.94	-0.49	-0.31	0.41	1.00	0.54	0.11	0.06	0.15	-0.03	-0.16	0.17	-0.13	0.11	0.20	-0.05	-0.05	0.41	0.22	0.40	0.06
U bound	-0.39	-0.35	0.06	0.13	1.02	1.52	0.15	1.02	1.53	0.71	0.44	0.23	0.66	0.51	0.71	0.76	0.37	0.64	0.50	0.32	0.49	0.13
L bound	-0.31	-0.29	-0.51	-0.14	-0.10	-0.04	0.44	-0.20	-0.19	-0.11	0.01	-0.09	-0.15	-0.17	-0.12	-0.16	-0.17	-0.21	0.10	0.22	0.55	-0.01
YVG	-0.24	-0.16	-0.39	-0.03	0.03	0.08	0.55	-0.08	-0.04	0.04	0.12	0.02	-0.04	0.00	0.00	-0.03	-0.06	-0.06	0.12	0.25	0.58	0.00
U bound	-0.16	-0.02	-0.25	0.09	0.16	0.19	0.65	0.04	0.11	0.19	0.23	0.13	0.08	0.18	0.13	0.12	0.04	0.11	0.13	0.27	0.60	0.02
L bound	-0.02	-0.04	-0.09	-0.09	-0.10	-0.06	-0.08	0.06	-0.07	-0.09	-0.07	-0.07	-0.10	-0.15	-0.07	-0.13	-0.08	-0.13	-0.01	-0.01	-0.02	0.76
YFR	0.02	0.03	-0.02	-0.02	-0.03	0.01	-0.03	0.02	0.02	-0.01	-0.01	-0.01	-0.04	-0.03	0.00	-0.05	-0.02	-0.04	0.00	0.00	-0.01	0.79
U bound	0.05	0.11	0.06	0.05	0.05	0.08	0.04	0.01	0.11	0.07	0.06	0.06	0.02	0.08	0.07	0.04	0.04	0.07	0.01	0.01	0.00	0.80
L bound	-0.79	-0.99	-1.48	-0.79	-0.99	-1.48	-0.88	-1.32	-1.89	-1.35	-1.14	-0.18	-0.06	-1.21	-1.28	-1.54	-0.86	-1.49	0.48	0.42	0.05	-0.11
YDR	-0.26	0.27	-0.37	0.01	0.40	0.21	0.08	-0.25	-0.60	-0.02	-0.19	0.90	0.96	0.35	-0.07	-0.28	0.10	-0.17	0.60	0.56	0.11	0.05
U bound	0.31	1.52	0.76	0.31	1.47	0.76	1.05	0.99	0.75	1.36	0.68	1.82	2.01	2.21	1.14	0.99	0.99	1.41	0.72	0.70	0.15	0.22

TABLE V.7 (Continued)

Equation	pml	pcl	pbgl	pwh	pbn	ppt	pvg	pfr	cdr	ccw	csg	ctr	cco	pws	pcs	pch	pnt	psp	ln	lb	ir	ft
L bound	0.63	-0.43	-1.03	-0.95	-0.74	-0.69	-0.68	-0.84	-0.85	-1.78	-0.75	-0.58	-0.06	-1.01	-0.79	-0.51	-0.52	-1.15	0.38	0.24	-0.54	-0.04
YCW	1.01	0.35	-0.29	-0.36	-0.04	0.03	-0.10	-0.02	-0.06	-0.84	-0.15	0.11	0.56	-0.09	0.00	0.27	0.06	-0.14	0.47	0.34	-0.46	0.07
U bound	1.39	1.14	0.42	0.22	0.67	0.75	0.45	0.74	0.72	-0.02	0.41	0.75	1.25	0.84	0.81	1.08	0.60	0.79	0.60	0.44	-0.37	0.17
L bound	1.39	-1.33	0.56	-0.83	-0.45	-0.39	-1.16	-0.35	-0.41	-0.38	-0.95	-0.25	0.03	-0.67	-0.36	-0.34	-0.42	-0.36	0.29	0.19	-0.41	0.12
YSG	1.56	-1.00	0.93	-0.48	-0.13	-0.09	-0.84	-0.04	-0.05	0.08	-0.66	0.09	0.33	-0.05	-0.03	-0.01	-0.04	0.05	0.34	0.25	-0.35	0.17
U bound	1.74	-0.65	1.38	-0.20	0.20	0.20	-0.66	0.29	0.25	0.57	-0.33	0.40	0.62	0.41	0.34	0.33	0.27	0.46	0.40	0.32	-0.30	0.23
L bound	-0.60	-1.24	-0.89	-0.89	-0.86	-1.01	-0.91	-1.24	-0.03	-1.16	-1.51	-1.95	-0.82	-1.43	-1.04	-0.84	-0.62	-1.63	1.01	-0.21	-0.09	-0.48
YTR	-0.07	0.02	0.24	0.05	0.27	0.05	0.05	-0.10	1.20	0.04	-0.57	-1.00	0.23	-0.14	0.11	0.30	0.30	-0.05	1.14	-0.08	0.03	-0.33
U bound	0.45	1.25	1.40	1.00	1.32	1.08	0.99	0.99	2.41	1.37	0.36	-0.09	1.23	1.32	1.35	1.46	1.19	1.36	1.29	0.07	0.15	-0.18
L bound	-0.92	-1.36	-1.36	-0.40	-0.87	-0.95	-0.57	-0.34	0.23	0.28	0.23	-0.69	-0.58	-1.08	-0.56	-0.49	-0.64	-0.59	1.23	-0.68	-0.63	-0.03
YCO	-0.60	-0.68	-0.74	0.15	-0.22	-0.33	-0.01	0.33	0.87	0.99	0.76	-0.09	-0.04	-0.15	0.05	0.17	-0.08	0.34	1.33	-0.59	-0.54	0.07
U bound	-0.26	0.02	-0.13	0.74	0.48	0.27	0.55	1.03	1.59	1.70	1.29	0.47	0.52	0.78	0.73	0.89	0.46	1.21	1.43	-0.49	-0.46	0.15
L bound	-1.24	-1.23	-0.83	0.46	-1.14	-0.92	-0.82	-0.41	-0.15	-0.02	0.38	-0.69	-0.68	-0.71	-0.43	-0.67	-0.71	-0.43	0.44	-0.34	-0.28	-0.04
YWS	-0.90	-0.57	-0.28	0.94	-0.43	-0.41	-0.33	0.09	0.46	0.59	0.85	-0.14	-0.02	-0.32	-0.02	0.03	-0.15	0.31	0.53	-0.24	-0.21	0.06
U bound	-0.56	0.16	0.21	1.49	0.26	0.16	0.18	0.56	1.06	1.22	1.33	0.41	0.81	0.38	1.08	0.81	0.39	1.08	0.64	-0.15	-0.14	0.16
L bound	0.64	-0.18	-0.25	-1.59	-0.89	-1.07	-1.06	-0.39	-0.79	-0.99	-0.57	-0.91	-0.01	-0.99	-0.79	-0.39	-0.76	-0.98	0.36	0.10	-0.21	-0.04
YCS	0.89	0.58	0.31	-0.90	-0.30	-0.47	-0.58	0.14	-0.05	-0.09	-0.13	-0.21	0.55	-0.02	-0.21	0.17	-0.21	-0.22	0.44	0.17	-0.14	0.03
U bound	1.18	1.47	0.86	-0.24	0.34	0.09	-0.11	0.71	0.78	0.79	0.35	0.52	1.12	0.79	0.47	0.79	0.29	0.52	0.53	0.25	-0.07	0.11
L bound	-0.32	-0.89	-0.84	-1.34	-0.41	-0.35	-0.09	-0.59	-0.48	-0.82	-0.38	-0.38	-0.53	-1.08	-0.89	-1.07	-0.77	-0.75	-1.25	-0.12	0.18	0.39
YCH	-0.06	-0.28	-0.23	-0.49	0.32	0.22	0.38	0.23	0.17	-0.04	0.08	0.16	0.01	-0.32	-0.28	-0.33	-0.32	0.09	-1.17	-0.04	0.24	0.50
U bound	0.06	0.35	0.41	0.92	1.01	0.89	0.90	1.87	0.85	0.67	0.52	0.62	0.53	0.47	0.37	0.38	0.13	1.01	-1.09	0.04	0.31	0.61
L bound	-1.31	-0.93	-0.86	0.05	-0.08	-0.09	0.31	0.41	-0.36	-0.71	-0.29	-0.43	-0.63	-0.85	-0.86	-1.11	-1.22	-0.94	-0.64	-0.17	0.04	0.35
YNT	-0.05	-0.29	-0.32	0.47	0.59	0.46	0.74	1.02	0.24	0.02	0.15	0.02	-0.17	-0.21	-0.27	-0.43	-0.78	-0.17	-0.56	-0.10	0.10	0.45
U bound	0.64	0.35	0.24	0.90	1.25	1.03	1.20	1.59	0.85	0.71	0.59	0.52	0.30	0.48	0.35	0.22	-0.35	0.59	-0.48	-0.03	0.16	0.55
L bound	-1.21	-1.06	-0.79	0.29	0.11	0.16	0.55	0.43	-0.39	-0.58	-0.25	-0.29	-0.46	-0.78	-0.81	-1.05	-0.76	-0.79	-0.75	-0.16	0.05	-0.08
YSP	-0.09	-0.53	-0.29	0.45	0.49	0.33	0.87	0.91	0.12	0.07	0.13	0.12	-0.02	-0.19	-0.24	-0.36	-0.41	-0.15	-0.68	-0.08	0.10	0.00
U bound	0.65	-0.01	0.25	0.84	1.11	0.85	1.27	1.45	0.66	0.69	0.51	0.55	0.43	0.47	0.34	0.29	-0.07	-0.06	-0.62	-0.01	0.02	0.11

An inspection of the first equation in Table V.7 reveals that only eight milk supply elasticity estimates out of 22 have narrow 95 percent confidence intervals. Others have intervals that range from negative to positive values. For example, the lower bound for the supply elasticity of milk with respect to the price of beans is –0.24, the upper bound is 0.11, and the mean is -0.06. Obviously, such an estimate is useless in predicting the milk supply response to changes in bean price. The same can be said about estimates of milk supply elasticities with respect to prices of potatoes, fruit, draft animals, cows, sheep, goats, tractor services, combine services, wheat seed, corn seed, chemicals, nitrate, and superphosphate. The 95 percent confidence intervals of these estimates are similar to those of the estimates of elasticiticities with respect to bean price.

A plausible explanation for the estimates' lack of statistical reliability would be that factors that were not included in the model may have interfered in the decision making process. As noted earlier, several important variables were not modeled because of information limitations.

Among statistically reliable estimates, the milk supply elasticities with respect to land, labor, irrigation, and the number of fruit trees have narrower confidence intervals than the elasticities with respect to prices of milk, cattle, kid, lambs, wheat, and vegetables. For example, the lower bound for the supply elasticity of milk with respect to the quantity of land is 0.23, the upper bound is 0.28, and the mean is 0.25. On the other hand, the 95 percent confidence interval for the own price elasticity of milk ranges from 0.09 to 0.27 and the mean is 0.18. This means that a one-percent decrease in the acreage of farmland is very likely to cause a 0.23 to 0.28 percent reduction in the quantity of milk supplied, other factors remaining the same. A similar change in the milk's own price is very likely to cause a 0.09 to 0.27 percent reduction. Obviously, such an inference is based on the assumption that economic and political conditions in the future would be similar to those that prevailed in the agricultural season modeled in this study.

Using the same line of reasoning as in the case of statistically non-reliable estimates, the difference in statistical reliability can be explained with the fact that the factors that were not included in the model may have had different degrees of interference for different variables.

An inspection of the remaining elasticity estimates reveals a similar pattern of statistical reliablity. Thus, all the estimates of output supply and input demand elasticities with respect to land, labor, and irrigation have very narrow confidence intervals. Half of the estimates of output supply and input demand elasticities with respect to the number of fruit trees also have very narrow confidence intervals. The remaining estimates have relatively narrow confidence intervals. As in the case of milk, most of own price elasticites have relatively reliable estimates. On the other hand, most of cross-price elasticities have non-reliable estimates. A detailed discussion on the economic meaningfulness of the estimated elasticities follows. Obviously, the elasticities that have statistically non-reliable estimates are not considered.

MILK ELASTICITES

The estimated milk supply elasticities with respect to prices of milk, cattle, kids and lambs, wheat, vegetables, and to the farm size, labor, and irrigation are 0.18, 0.17, 0.26, -0.21, -0.22, 0.25, 0.29, and –0.31 respectively. These results indicate that the supply response to the above factors has been very moderate. The moderate response to prices makes sense in view of the fact that milk is produced mostly for farm family consumption. Therefore, farmers can be expected to be relatively indifferent to market price changes. The moderate response to differences in farm size, labor and irrigation can be explained by the fact that public pastureland availability may have more impact than these factors on herd size and especially on yield. The estimated elasticity with respect to the number of fruit trees is 0.03. This means that this factor has had no impact on milk supply. The finding that the number of fruit trees has had no impact on milk supply is not

surprising in view of the fact that the limited number of scattered fruit trees owned by a farmer can hardly affect the farmer's milk production decisions.

The signs of elasticities are as expected. For example, it is reasonable to expect a positive milk supply response to prices of milk, cattle, kids, and lambs. The higher these prices, the larger the herd can be expected. The same can be said for the acreage and the farm labor. On the other hand, it is reasonable to expect a negative response to wheat and vegetable prices because these crops compete with milk for farm resources. The negative response to irrigation makes sense in view of the fact that a farm with higher irrigation accessibility is expected to be more oriented toward vegetable production rather than milk production.

COW CALF ELASTICITIES

Only calf supply elasticities with respect to land, labor, irrigation, and the number of fruit trees have statistically reliable estimates. (The respective estimates are 0.54, 0.41, -0.50, and 0.14). The signs of these estimates are identical to the signs of milk elasticity estimates with respect to the same factors. However, they indicate that these factors have had a slightly stronger impact on calf supply. This slight difference in magnitude can be explained by the fact that the number of calves may be more related to the farm acreage, labor, and irrigation than the production of milk. Recall that the variable supply of milk is represented by the sum of milk produced from cows, sheep, and goats. As noted erlier, the primary source of feed for sheep and goats is grazing in public pastures. On the other hand, the primary source of feed for cows is farm forage crop production.

KID AND LAMB ELASTICITIES

The supply of kids and lambs has been significantly affected by their own price (the estimated own price elasticity is 1.56). This makes economic sense in the view of

the fact that Albanian farmers rely primarily on pastureland around their villages to feed their light livestock. It also should be noted that the supply of baby goats and lambs is more sensitive to milk prices than the supply of cattle. (The respective elasticities are 0.69 and 0.29). This can be explained by the fact that it is easier for farmers to add more goats or sheep to their herd in response to higher milk prices, as compared to the increase in the number of their cows. The supply response to fixed factors is very similar to milk response in terms of sign and magnitude.

WHEAT ELASTICITIES

From an inspection of estimated wheat elasticities it can be inferred that wheat supply has been very responsive only to it own price (the estimated elasticity is 1.37). A moderate response is indicated by the estimated elasticities with respect to prices of milk, calves, kids and lambs, to farm size, labor, and irrigation. The respective estimated elasticities are -0.50, -0.43, -0.54, 0.64, -0.29, and -0.25. The elasticity signs indicate that an increase in milk and livestock prices has a negative impact on wheat supply. This can be explained by the fact that wheat competes with these products for resources. The signs of elasticities with respect to irrigation and labor also indicate that farms with more labor and irrigated land produce less wheat. This make sense in view of the fact that larger family farms and farms with access to irrigation are more inclined toward intensive crops.

BEAN ELASTICITIES

Bean supply has been very responsive only to its own price (the estimated elasticity is 1.36). A moderate response is indicated by the estimated elasticities with respect to prices of milk, potatoes, combine services, nitrate, to farm size, labor, and irrigation. The respective elasticities are 0.30, -0.56, 0.66, -0.65, 0.18, 0.32, and 0.44. The elasticity signs indicate that an increase the price of milk has a positive impact on beans supply. One explanation for this positive relationship would be the practice of

jointly producing beans with corn. When milk prices are high more corn for cows should be expected to be produced and, as a result, the production of beans also may increase. The signs of elasticities with respect to land, irrigation, and labor also indicate that farms with more land, labor, and irrigation produce more beans. This make sense in view of the fact that larger family farms and farms with access to irrigation are more inclined toward intensive crops.

The positive sign of the elasticity with respect to combine service prices can be explained with the fact that, when combine service prices are high, less wheat is produced. As a result, more land is allocated to beans. The negative sign of sign of the elasticity with respect to potato prices is an indication of the fact that potatoes and beans are two staple foods that compete with each other for limited resources. The negative response to nitrate prices, indicated by the results, can be easily explained by the fact that higher input prices have a negative impact on the output.

POTATO ELASTICITIES

Potato supply has been responsive only to its own price and prices of calves (the estimated elasticities are 1.00 and -0.94, respectively). A moderate response is indicated by the estimated elasticities with respect to prices of milk, to farm size, labor, and irrigation. The respective elasticities are –0.68, 0.41, 0.22, and 0.40. The elasticity signs indicate that an increase in milk and livestock prices has a negative impact on potato supply. This can be explained by the fact that potatoes compete with these products for resources. The signs of elasticities with respect to land, labor, and irrigation indicate that farms with more land, labor, and irrigation produce more potatoes. This make sense in view of the fact that larger family farms and farms with access to irrigation are more inclined toward intensive crops.

VEGETABLE ELASTICITIES

Their own price and the level of irrigation have had the highest impact on the supply of vegetables according to the results. The respective estimated elesticities are 0.55 and 0.58, respectively. Other prices and factors seem to have had a moderate effect. The same line of reasoning used in the discussion of potato elasticities can be used to explain the negative sign of elasticities with respect to milk and livestock prices and the positive signs of elsticities with respect to irrigation, labor, and land.

FRUIT ELASTICITIES

In the short run, fruit supply does not respond to market prices, according to the results. This makes sense in view of the fact that fruit production became an extensive operation after the dismantling of large state and collective farms. Presently, fruit production comes mainly from scattered trees around farmhouses and usually no inputs are used to affect production. Therefore, differences in fruit production from farm to farm can be explained mostly by differences in the number of fruit trees. (The estimated fruit supply elasticity with respect to the number of fruit trees is 0.79).

DRAFT ANIMAL ELASTICITIES

Only draft animal demand elasticities with respect to land, labor, and irrigation have statistically reliable estimates. The respective estimated elasticities are 0.60, 0.56, and 0.11. The impact of irrigation on draft animal demand, as expected, is negligible. The moderate response to labor can be explained by the fact that larger farm families can make more use of draft animals for plowing instead of paying for tractor services. Unexpected is the positive relationship between farm size and the demand for draft animals. Normally, in Albania, the smaller the farm is, less mechanized services are applied. Therefore, more use is expected to be made of draft animals. A possible

explanation for the wrong sign would be the fact that the statistical model is misspecified. Missing variables can be a source of estimate bias.

COW ELASTICITIES

As expected, the results indicate that the demand for cows is responsive to milk prices and the cost of cows. The respective estimated elasticities are 1.01 and -0.84. Among fixed factors, land, irrigation, and labor have had a moderate impact. The estimated elasticities for these factors are 0.47, -0.46, and 0.34, respectively. Their magnitude and signs are almost identical to their calf elasticities' counterparts.

SHEEP AND GOAT ELASTICITIES

The estimated sheep and goat demand elasticities also are almost identical to their kid and lamb elasticites' counterparts. Therefore, in order to avoid repetition, the discussion of sheep and goat elasticities is not presented here.

COMBINE SERVICE ELASTICITIES

The results indicate that farms with more land and less labor tend to use combine services to harvest wheat (respective estimated elasticities are 1.33 and – 59). As expected, the demand for combine services seems to have been lower in areas where prices of milk, calves, kids, and lambs have been higher. This can be explained with the fact that tending livestock and producing wheat are activities that compete for limited resources. The results also indicate that farm with more irrigation accessibility demand less combine services (the estimated elasticity is –0.54). These farms can be expected to be oriented toward water-demanding high-value crops.

TRACTOR SERVICE ELASTICITIES

The estimated elasticities for tractor services indicate that the demand for those services has been mainly sensitive to their own cost and the cost of draft animals (respective estimated elasticities are –1.00 and 1.20). It also has been sensitive to the quantity of land (the estimated elasticity 1.14). Other prices and factors were not expected to significantly affect the demand for tractor services because no matter what production plan a farmer would choose, plowing requirements would be the same. The results confirm that expectation.

WHEAT SEED ELASTICITIES

Estimated elasticities for wheat seed indicate that the demand response for wheat seed has been similar to the supply response for wheat itself. Therefore, in order to avoid repetition, the discussion of wheat seed elasticities is not presented here.

CORN SEED ELASTICITIES

Corn is mainly produced to meet cows' feed needs. As such, corn competes with other crops, mainly wheat, for the use of land and other inputs. This rationale is reflected by the estimated corn seed elasticities. Thus, according to the results, the demand for corn seed has responded positively to high milk prices, and negatively to high wheat and vegetable prices. (The respective elasticities are 0.89, -0.90, -0.58)

CHEMICALS ELASTICITIES

Only the chemical demand elasticities with respect to land, irrigation, and fruit trees have statistically reliable estimates. These estimates indicate that the use of chemicals is mostly related to farm size and the number of fruit trees (the respective estimated elasticities are -1.17 and 0.50). The relatively high elasticity with respect to

land indicates that, in order to make up for the deficiency in land resources, farmers tend to use a more intensive technology.

FERTILIZER ELASTICITIES

Nitrate and superphospate elasticities indicate almost the same demand response pattern. Both sets of elasticities indicate a moderate response to vegetable, wheat, potato, bean, fruit, and own prices. All the signs of elasticities with respect to output prices are positive. This makes sense in view of the fact that farmers would be willing to buy more fertilizers in response to higher output prices. The own price elsticities, as expected are negative. Same as in the chemicals case, the elasticities with respect to land are positive.

V.5 Summary of the Results

As noted earlier, the supply and demand functions estimated through the subsample approach can be considered simply as a summary of the data, acquired through the least squares method. However, while it is impossible to statistically determine how close the estimated elsticities are to the real supply and input demand elasticities, an examination of elasticities reveals that a some of them have statistically reliable estimates and make sense from an economic point of view. However, the lack of statistical reliability of some of the estimates warrants a very cautious use of the results in policy analysis.

As noted in Chapter I, the estimated elasticities were planned to be used for predicting the effects of price policies on major agricultural products, the effects of tariffs and subsidies on the use of purchased inputs, and the effects of land, irrigation, and labor policies on agricultural production. While a cautious use of the sub-sample method results for predicting the impact of different policies would have made sense up to December 1996, their use is completely inadvisable for the time being. This is due to the dramatic changes in the whole political and economic life of Albania following the collapse of several pyramid investment schemes.

Such schemes had started to operate as early as 1992. By the fall of 1996, they took gigantic proportions. An official warning from the IMF and World Bank about risks involved in investing in the schemes, sparked a fierce competitive war among all pyramid schemes to attract investors, who were panicked from the warning. Some of the schemes started to pay interest as high as 50 percent a month for deposits and soon, the other schemes followed suit.

The incredibly high rates of return and the tacit government endorsement of the schemes raised an investment fever never witnessed before. Press reports indicated that many people sold almost everything they had and rushed to invest in the schemes. The get-rich-quick fever affected even the most conservative investors in Albania - farmers. There were press reports of massive illegal shipments of livestock to neighboring Greece and of massive bank deposit withdrawals in the rural areas.

As predicted by many western analysts, the pyramid scheme frenzy did not last long. In December 1996, the first schemes went bankrupt, followed by others in January 1997. Their collapse sparked riots, which were especially ferocious in Southern Albania, where most of the schemes were based. As a result of the riots, the army and most of police units were dissolved and the population ransacked armories. Press reports estimated that around one million assault rifles and machine guns were commandeered by civilians.

The riots and the subsequent anarchy had a very bloody price. Around 1500 people were killed between December 1996 and June 1997. Most of the casualties were caused by stray bullets, bandit attacks, and Mafia related crimes during the period of lawlessness from March to June 29, when early general elections were held.

The June elections resulted in a deep defeat for the governing Democrats, who were blamed by many people for allowing pyramid schemes to flourish. The new

Socialist government formed after elections reestablished a semblance of order in the following months. However, the hundreds of thousands of assault rifles, machine guns, grenades, and grenade launchers in the hands of civilians will remain a formidable challenge to the reestablishment of real public order in Albania. An almost impossible task for the Socialists will be the reimbursement of the estimated $ 1.5 billion lost in the investment schemes, something they promised during the electoral campaign. And finally, the deep polarization of the Albanian political life spells trouble for a long time in the future of the small Balkan country.

The insecurity that characterized the year 1997 has delivered a serious blow to the economic life of Albania. The trade between urban areas and villages has been almost paralyzed. This is due to the fact that the roads that link villages with towns and cities have been completely unprotected by the Albanian police or the Multi National Force that was deployed in Albania during the crisis.

Given the insecurity that reigns in Albania, a change in farmers' behavior should be expected. Before the crisis, farmers produced both to meet their own needs and to sell in the market. After the crisis they choose to achieve food security. This means that their supply response will be much less sensitive to market prices than before the crisis. A fact that documents this shift in behavior is the lack of wheat sales from farmers after the crisis. Flourmills report that, in the summer of 1997, farmers brought wheat to the mills only for custom milling, not for market sales. This is a total reversal in behavior compared with previous years.[9]

Despite the fact that the use of this study's results for policy analysis is completely inadvisable for the time being, a discussion on how they can be used in the future will be presented here. The basic assumption underlining the discussion is that Albania will eventually return to the normal situation that prevailed before the crisis.

[9] The information from flour mills was acquired through personal phone interviews of the author with several flour mill owners.

As noted in Chapter I, the overall objective of this study was to develop a comprehensive framework for predicting the impacts of government policies on agricultural production in Albania. This objective was not realized because a well-specified model could not be constructed due to data limitations. Had such a model been build, predicting policy impacts across all output and input equations could have been made possible.

A well-specified model could have been used to produce a benchmark scenario by plugging expected prices and fixed input levels into the system of equations. The benchmark scenario could then been modified to accommodate proposed policy changes. The differences between modified and benchmark scenario values would represent the expected impact of policy changes on agricultural outputs and inputs.

Despite the fact that the model is not well specified, elasticities that have statistically reliable estimates and make economic sense can be used to predict isolated policy impacts. An estimated elasticity that fulfils these criteria provides a prediction for the change in output or input due to a certain price or fixed factor level change. However, recall that the prediction is valid only if all other prices and factor levels remain the same. Having this in mind, a discussion on how changes in prices and fixed factor levels may affect certain agricultural outputs and inputs follows.

As previously noted, all the elasticities with respect to land, labor, and irrigation have statistically reliable estimates and make economic sense. Therefore, they can be used to predict the policy impacts on all outputs and inputs. The results indicate that a reduction in cropland only moderatly affects outputs. For example, a one-percent reduction in cropland is expected to reduce the production of wheat only by 0.64 percent. The other estimated elasticities indicate a smaller impact. The implication of this finding is that farmers shift to more intensive technology as more land is used for non-agricultural purposes. The negative signs and magnitudes of chemical, nitrate, and

superphosphate elasticities with respect to land reinforce this argument. (The estimated elasticities are –1.17, -0.56, and -0.68, respectively)

The results indicate that a reduction in the number of people involved in farming has a lower impact on outputs than a reduction in cropland. The cow calf supply elasticity with respect to the number of farm family members involved in farming is the highest among output elasticities (0.41). The others range between zero and 0.32. This moderate response suggests that Albanian farmers are underemployed.

Combine services are the only input to be relatively affected by changes in the agricultural labor force. The estimated elasticity indicates that a one-percent reduction in agricultural labor force will increase the area harvested by combine by 0.59 percent. The impact of labor on other input demands is negligible.

A one-percent increase in the area under irrigation is expected to increase the production of vegetables, beans, and potaotes by 0.58, 0.44, and 0.40 percent respectively. On the other side, a one-percent increase in the area under irrigation is expected to moderately reduce the production of milk, calves, lambs, kids, and wheat, and the demand for cows, sheep, goats, and combine services. (The estimated elasticities range from -0.25 to -0.54).

The number of fruit trees affects only fruit production among outputs (the estimated elasticity is 0.79). The inputs affected by the number of fruit trees are chemicals, and nitrate (the estimated elasticities are 0.50 and 0.45, respectively).

As noted earlier, most of the own price elasticities have relatively reliable estimates. The estimated own price elasticities for kids and lambs, wheat, beans, and potatoes indicate that a one-percent price increase is most likely to cause an increase of at least one percent in production. (The respective estimated elasticities are 1.56, 1.37,

1.36, and 1.00). However, it should be noted that these elasticity estimates are not as reliable as those elasticities for the fixed resources. Thus, there is no guaranty that the increase in production will be no less than one percent for all these outputs. For example, the 95 percent confidence interval for the estimated potato own price elasticity is from 0.49 to 1.52. This simply means that there is a 95 percent chance that a one-percent price increase will cause an increase between 0.49 and 1.52 percent in production. Other estimated own and cross price elasticities and their confidence intervals indicate a softer supply and demand response to prices.

CHAPTER VI

SUMMARY AND CONCLUSISONS

VI.1 Research Summary

The overall objective of this study was to develop a framework to assess the impacts of government policies on agricultural production in Albania. Agriculture is the most important sector of the Albanian economy. Approximately 50 percent of the population is employed in agriculture. Coupled with trade, agriculture has been the fastest growing sector since 1992.

Given the importance of agriculture, the Albanian government has tried to design policies aimed at increasing agricultural production. However, due to the lack of comprehensive empirical studies, most of the policies have been based on intuition and common sense. The goal of this study has been to provide some empirical estimates of the farmers' short-run supply response to government policies that effect output and input prices.

Different theoretical approaches to integrating the questions this study purported to answer were considered. Two models were deemed as most appropriate for Albanian agriculture. The first was a semi-commercial farm household model and the second was the well-known indirect profit function model. The first model was preferred. However, the second was used instead, due to the lack of information necessary for an empirical application of the semi-commercial farm household model.

The Special Agricultural Survey conducted in 1995 by the Albanian Ministry of Agriculture and Food under the supervision of Support for Agricultural Restructuring in Albania (SARA) Project served as the basis for the data used to estimate the model. Although that survey provided a relatively comprehensive and reliable set of data that could be used for quantitative analysis, it was not specifically designed for this study.

A quadratic functional form was selected to approximate the profit function. It satisfied the test proposed by Driscoll for a Taylor series approximation convergence. Two approaches were used to estimate the empirical model. In the first, the traditional approach, the symmetry and homogeneity conditions were imposed beforehand and then the system of equations was estimated using the ITSUR procedure in SAS. Following common practice, a joint Rao test of these conditions was conducted, implicitly assuming that the test statistic has a Fisher distribution or, stated differently, assuming that parameter estimators are normally distributed. The results from the test indicated that the theoretical assumptions of the model were correct.

However, a second approach, proposed by McGuirk, *et al.*, was also used in this study. The approach proposed by McGuirk, *et al*., requires that, before imposing and/or testing any theoretical assumption, the unrestricted model is estimated and tested to see if all the underlying statistical assumptions of the linear regression are met.

The misspecification tests suggested that the model was not statistically adequate. This finding indicated that the theoretical test conducted in the traditional approach is invalid because there is no guarantee that the test statistic has a Fisher distribution as was implicitly assumed. As efforts to find a statistically adequate model did not produce any satisfactory results, an alternative estimation procedure was proposed in the study. Named the sub-sample or bootstrapping method, this procedure consists of randomly selecting a large number of sub-samples from the cross-sectional sample and running a

regression for each of them. The large number of estimates for each of the coefficients serves as a basis for estimating 95-percent confidence intervals.

A comparison of the results from the sub-sample method with results from the traditional approach, revealed that the symmetry condition and especially the homogeneity condition did not hold. This means that no theoretical relationship exist between the theoretical and the empirical models. Therefore, the equations estimated in the empirical model represent simply a rough approximation of the real supply and input demand functions.

An inspection of the supply and input demand elasticities calculated based on coefficients estimated through the sub-sample method revealed that half of them have statistically non reliable estimates. Therefore, predicting policy impacts across all output and input equations is not possible. However, elasticities that have statistically reliable estimates and make economic sense can be used to predict isolated policy impacts, if Albania returns to the normal conditions that prevailed before the 1997 crisis.

VI.2 Conclusions of the Study

The study showed that Albanian farmers have not been as responsive to prices as generally believed by government officials. This finding indicates that they tended to engage more in semi-commercial farming than pure commercial farming. Thus, it is advisable to use a semi-commercial farm household model in future studies, especially in the near future, as a further shift toward subsistence goals is expected due to the insecurity that followed the political turbulence of early 1997.

On the methodology side, this study showed the importance of the statistical adequacy of an econometric model for testing theoretical assumptions. It showed that if the underlying assumptions of a regression model are not met, any theoretical test could

be either meaningless or lead to inappropriate recommendations. This study offered an alternative estimation procedure for cases when the statistical adequacy of the regression model can not be achieved and a large sample is available to the researcher. This procedure consists of randomly selecting a large number of sub-samples from the main sample and running a regression for each of them, thus providing a basis for evaluating estimator distributions.

VI.3 Suggestions for Future Research

The methodology employed in this study used a comprehensive framework for supply analysis. It included all major agricultural products and inputs in a great deal of detail. However, the model used in this study fails to address the interactions between branches of the economy as a whole. A general equilibrium model should be used in the future once the necessary data are available.

Albanian farmers were assumed to be profit maximizers. Empirical results suggest that this assumption may not be true. A semi-commercial farm household model can better represent the Albanian farmers' supply behavior. In order to construct such a model, information on remittances, and on the work hours and purchased inputs utilized for each crop should be collected. However, it should be noted that even the above information is not sufficient to acquire a statistically adequate model. Data about farm characteristics such as soil quality, climate, weather, public pastureland availability, must also be collected in order to model structural change.

Future national agricultural surveys must also address the problems noticed in the Special Agricultural Survey used in this study. For example, production levels and prices should be provided for each type of vegetable and fruit. Collecting information on the weight gain of livestock will also be very helpful. This information could significantly

improve the modeling of meat supply. The demand for cows, draft animals, sheep and goats can also be better modeled if ages and age differentiated prices for these animals are available. Information on specific chemical and seed prices and quantities would also be very helpful in constructing appropriate price and quantity indices.

APPENDIX

THE DATA SET

TABLE A-1 OUTPUT AND INPUT QUANTITIES

segment	yml	ycl	ybgl	ywh	ybn	ypt	yvg	yfr	ydr	ycw	ysg	ytr	yco	yws	ycs	ych	ynt	ysp
	litre	heads	heads	kilo	kilo	kilo	kilo	kilo	heads	heads	heads	are	are	kilo	kilo	kilo	kilo	kilo
161	2670	2	12	1130	100	110	1140	400	-1	-3	-15	0	-3.4	-15	-26	-1.6	-21	-29
161	2790	2	13	1800	100	120	1150	390	-2	-3	-16	-9.7	-9.9	-21	-30	-3.8	-30	-46
161	2640	2	12	1090	100	110	1190	430	-1	-3	-14	-5	-1.7	-13	-23	-1.6	-22	-29
161	1840	0	10	0	90	90	1080	410	-1	0	-13	0	0	0	-20	-1.3	-21	-27
161	2620	2	11	1480	110	130	1380	330	-1	-3	-13	-9.2	-6.7	-18	-27	-3.8	-28	-43
161	2700	2	13	1840	0	110	970	350	-2	-3	-16	-10.3	-9.8	-21	-28	-3.8	-29	-45
162	2550	2	12	1560	100	120	1170	400	-1	-3	-14	-7.6	-7.8	-20	-27	-2.9	-27	-39
162	2200	2	12	1450	0	80	800	400	-1	-3	-14	-5.9	-7.1	-19	-25	-1.6	-22	-30
162	2120	2	13	1710	0	0	460	430	-1	-3	-15	0	-8.7	-20	-24	-1	-21	-27
162	2710	2	13	1780	100	120	1160	460	-2	-3	-15	-8.6	-9.1	-20	-28	-3.2	-31	-43
162	3010	2	14	1780	110	140	1340	470	-2	-3	-16	-10.6	-9.3	-21	-30	-4.1	-36	-50
162	2380	2	11	1380	100	110	1130	360	-1	-2	-13	-6.4	-5.6	-17	-24	-2.4	-22	-34
235	2830	3	14	1680	90	120	1020	360	-2	-3	-15	-8	-9.6	-23	-30	-3.1	-25	-40
235	2380	1	8	1140	110	120	1470	280	-1	-2	-10	-9	-4.1	-17	-24	-3.6	-25	-40
235	2690	3	14	1710	80	110	860	470	-2	-3	-16	-6.2	-10.5	-24	-30	-2	-26	-35
235	2630	2	12	1170	100	110	1120	360	-1	-3	-13	-4.6	-2.9	-15	-23	0	0	0
235	2390	2	11	1330	90	110	1080	350	-1	-2	-12	-5.5	-4.4	-17	0	-2	-20	-31
235	2530	2	13	1690	80	110	940	470	-2	-3	-14	-7.2	-9.1	-22	-27	-2.3	-28	-37
236	2290	2	11	1670	90	110	1030	460	-1	-2	-12	0	-9.3	-23	-25	-2	-25	-35
236	2410	2	12	1670	0	100	850	450	-2	-3	-14	-7.1	-7.9	-20	-24	-2.2	-27	-36
236	2340	2	10	1620	100	120	1230	380	-1	-2	-11	-8.5	-9.3	-23	-26	-3.3	-29	-42
236	2760	2	12	1610	110	130	1340	440	-2	-3	-14	-8.8	-7.5	-20	-26	-3.4	-31	-44
236	2410	2	11	1250	90	100	1050	400	-1	-2	-12	0	-4.3	-17	-23	-1.4	-19	-28
236	2590	2	12	1430	100	120	1240	500	-1	-3	-13	-6.7	-6.5	-20	-26	-2.2	-29	-36
241	2410	2	10	1500	110	130	1200	430	-1	-2	-10	-5.2	-6.9	-19	-22	-2.7	-30	-41
241	2540	2	11	1460	100	120	1060	410	-2	-2	-12	-5.4	-5.4	-17	-21	-2.5	-28	-39
241	2250	2	10	1550	90	110	960	440	-1	-2	-11	-5.7	-9	-22	-24	-2.4	-31	-40

241	2640	3	13	1660	90	110	880	510	-2	-3	-13	-5.9	-6.7	-17	-21	-2.3	-33	-41
241	2570	2	10	1650	100	130	1220	380	-2	-3	-11	-10	-9	-21	-25	-4.3	-37	-52
241	2280	1	7	960	110	130	1400	320	-1	-1	-8	0	-1.7	-14	-19	-2.3	-23	-34
242	2080	1	8	1170	90	110	1150	430	-1	-2	-9	0	-4.1	-16	-19	-1.9	-28	-35
242	1990	2	7	1540	100	130	1210	430	0	-1	-8	-4.7	-7.5	-20	-19	-2.5	-30	-40
242	2680	2	11	1390	110	130	1280	500	-2	-3	-12	-6.4	-5.7	-17	-23	-2.7	-35	-43
242	2360	2	10	1600	100	130	1080	370	-1	-2	-10	-4.7	-9.6	-23	-25	-2.7	-27	-40
242	2720	3	12	1690	110	140	1220	480	-2	-3	-12	-7.3	-10.7	-24	-28	-3.4	-37	-48
242	2140	2	9	1370	90	110	970	430	-1	-2	-10	0	-6.2	-19	-20	-1.8	-28	-35
371	2340	2	7	1330	110	150	1480	360	-1	-1	-6	-6.6	-5.5	-20	-19	-3.4	-30	-44
371	1540	1	0	1060	60	90	830	430	-1	-1	0	0	-3	-17	-12	-0.4	-22	-24
371	2440	2	9	1340	100	140	1220	390	-1	-2	-8	-4.7	-7.5	-23	-23	-2.4	-27	-39
371	2240	2	8	1840	100	150	1260	410	-1	-1	-7	-7.1	-9.9	-23	-19	-3.6	-34	-49
371	2610	3	12	1830	80	120	890	420	-2	-3	-11	-7.6	-10.8	-25	-24	-3.2	-33	-46
371	2630	2	11	1600	100	140	1160	430	-2	-2	-10	-8.1	-8.9	-23	-24	-3.4	-35	-47
203	2840	3	13	1660	90	110	920	430	-2	-4	-15	-9.1	-8.6	-20	-27	-3.4	-36	-47
203	2200	2	10	1200	80	90	880	560	-1	-2	-12	0	-3.2	-14	-18	-0.8	-30	-31
203	2320	2	11	1670	90	110	860	420	-1	-2	-12	-5.7	-9.3	-21	-24	-2.4	-30	-40
203	2680	2	11	1440	120	140	1320	440	-1	-2	-12	-6.4	-7.1	-19	-25	-3.1	-33	-44
203	2740	2	12	1460	110	120	1150	350	-2	-3	-13	-7.6	-7.4	-19	-26	-3.4	-30	-44
203	2540	2	10	1280	110	130	1380	430	-1	-2	-11	-7.3	-5.1	-17	-23	-3.2	-34	-44
309	2460	2	9	1530	80	110	1080	480	-2	-2	-9	-6.9	-7.7	-23	-24	-2.7	-34	-41
309	2520	2	9	1420	90	110	1180	470	-2	-2	-8	-6.8	-6.5	-22	-24	-2.7	-33	-41
309	2760	3	13	1620	0	90	730	460	-2	-3	-12	-5.2	-9.7	-26	-29	-2	-28	-36
309	2260	1	7	1450	100	120	1300	380	-1	-2	-6	-6.5	-6	-21	-21	-3.1	-30	-41
309	2420	2	9	1430	90	100	1090	410	-2	-2	-8	-5.8	-6.9	-22	-24	-2.5	-29	-38
309	2010	1	6	1270	80	100	1140	360	-1	-1	-5	-5.2	-3.9	-19	-18	-2.3	-26	-35
310	2390	2	8	1490	90	120	1190	400	-1	-2	-7	-5.2	-6.7	-22	-22	-2.7	-28	-39
310	2920	3	11	1710	110	140	1310	460	-2	-2	-10	-6	-8.3	-23	-26	-3.2	-32	-45
310	2990	3	11	2100	110	140	1340	410	-2	-3	-10	-11.8	-12.5	-27	-29	-5.5	-42	-60
310	2490	2	10	1560	80	100	970	440	-2	-2	-9	-6.2	-7	-22	-23	-2.5	-30	-39
310	2640	3	12	1970	80	110	900	500	-2	-3	-11	-6	-12.2	-28	-28	-2.8	-33	-43

310	2740	3	11	1820	90	120	1060	370	-2	-3	-10	-7.9	-10	-25	-27	-3.8	-31	-47
324	2490	2	10	1600	80	100	1040	500	-2	-2	-9	-7.2	-6.6	-21	-22	-2.7	-34	-41
324	2510	2	8	1500	90	110	1220	380	-2	-2	-8	-8.4	-6.9	-22	-23	-3.6	-32	-45
324	2700	3	12	1950	80	100	820	400	-2	-3	-11	-7	-10.3	-25	-25	-3.1	-30	-43
324	2750	2	11	2040	80	120	1040	410	-2	-3	-10	-11.5	-13.2	-29	-29	-4.7	-40	-55
324	2370	2	8	1850	90	120	1120	300	-1	-2	-7	-8.2	-10.8	-26	-25	-4.1	-30	-47
324	2660	2	9	1870	100	130	1320	320	-2	-2	-8	-9.1	-9.4	-24	-24	-4.7	-32	-52
374	2570	2	11	1520	90	90	860	380	-2	-2	-10	-4.8	-6.7	-23	-27	-2.2	-22	-33
374	2260	2	9	1890	80	90	860	160	-1	-2	-7	-8.5	-9.4	-25	-25	-4.4	-21	-44
374	2280	2	10	1460	80	80	860	440	-2	-2	-9	-5.9	-5.7	-22	-24	-2.1	-27	-33
374	2170	2	9	1380	80	80	870	400	-1	-2	-8	-4.7	-3.3	-19	-20	-1.8	-22	-30
374	2740	2	11	1840	100	120	1170	440	-2	-3	-10	-9.1	-10.6	-28	-31	-4.1	-35	-48
374	2620	2	10	1560	100	110	1170	430	-2	-2	-9	-7.7	-7.1	-24	-27	-3.3	-31	-42
376	2520	2	10	1610	100	100	1060	480	-2	-2	-9	-5.9	-7.2	-24	-26	-2.6	-29	-38
376	2170	2	9	1270	90	90	1030	490	-1	-2	-7	0	-4.8	-22	-24	-1.2	-24	-28
376	2650	3	12	1670	100	100	980	500	-2	-2	-10	-4.6	-6.8	-22	-26	-2.1	-27	-35
376	2420	2	10	1600	90	100	1020	470	-2	-2	-9	-6.3	-8.4	-26	-27	-2.6	-30	-38
376	2750	2	11	1970	100	120	1100	410	-2	-3	-10	-8.4	-10.5	-27	-29	-4	-32	-48
376	1980	1	8	1540	70	80	800	410	-1	-2	-7	0	-6.7	-23	-22	-1.8	-23	-31
377	2300	2	9	1420	100	100	1100	400	-1	-2	-7	-5.4	-6.5	-24	-26	-2.4	-26	-35
377	1990	1	8	1540	80	80	880	450	-1	-2	-7	-5	-7.5	-25	-23	-1.9	-27	-33
377	2430	2	10	0	90	80	1050	610	-2	-2	-9	0	0	0	-23	-0.4	-28	-24
377	2470	1	8	1300	110	110	1370	300	-1	-2	-7	-7.3	-3.4	-19	-23	-3.6	-25	-40
377	2280	2	8	1370	100	100	1150	410	-1	-2	-7	0	-6.5	-24	-26	-2.2	-24	-33
377	2470	2	11	1490	90	90	960	450	-2	-2	-9	-4.8	-6.7	-24	-26	-2	-26	-33
233	2670	2	12	1620	100	90	930	380	-2	-3	-12	-5.8	-5.7	-19	-27	-2.7	-24	-36
233	2510	2	9	1500	110	110	1290	350	-1	-2	-9	-7.4	-5.4	-19	-26	-3.6	-28	-42
233	2460	2	10	1420	110	90	1100	430	-1	-2	-10	-4.5	-5.8	-20	-28	-2.2	-25	-33
233	2310	1	8	1270	110	90	1220	230	-1	-2	-8	-6.2	-2.8	-16	-23	-3.3	-20	-36
233	2570	2	9	1080	120	100	1320	300	-1	-2	-9	-4.6	-1.6	-16	-26	-2.6	-19	-32
233	2430	2	11	1550	80	70	780	280	-2	-3	-11	-7	-5.8	-19	-26	-3	-22	-36
234	2320	2	12	2040	70	80	640	420	-1	-3	-14	-7.6	-11.6	-26	-29	-2.7	-27	-37

234	2390	2	11	1650	90	80	860	420	-1	-3	-13	-5.9	-7.4	-22	-27	-2.1	-23	-32
234	2450	2	10	1460	100	90	1070	310	-1	-2	-11	-6.8	-4.8	-19	-25	-2.9	-20	-33
234	2310	2	11	1870	80	80	760	400	-1	-3	-13	-7.5	-8.4	-22	-25	-2.7	-25	-36
234	2590	2	12	1580	90	90	940	400	-1	-3	-13	-5.5	-5.5	-19	-26	-2.2	-21	-31
234	2630	2	12	2020	100	100	1030	420	-1	-3	-14	-9.8	-10.3	-24	-29	-3.9	-32	-45
246	2550	2	11	1720	100	100	1060	430	-1	-3	-13	-7.2	-5.7	-19	-24	-2.8	-26	-37
246	2470	2	11	1590	90	90	970	400	-1	-3	-12	-6.9	-5.1	-19	-24	-2.5	-24	-34
246	2470	2	12	2160	80	90	840	350	-1	-3	-13	-9	-11.5	-25	-28	-3.8	-27	-43
246	2560	2	12	1950	90	90	870	400	-1	-3	-14	-7.7	-10.2	-25	-29	-3.1	-26	-39
246	2590	2	12	1600	90	80	930	420	-1	-3	-14	-7.2	-6.6	-21	-28	-2.5	-25	-34
246	2950	3	14	1870	90	90	810	320	-2	-3	-16	-7.5	-7.5	-21	-28	-3.2	-21	-37
333	2280	1	9	1440	80	90	1020	390	-1	-2	-10	-6.4	-3.9	-19	-21	-2.3	-23	-31
333	2220	2	9	1580	90	100	1100	520	-1	-2	-10	-5.4	-5.3	-20	-21	-1.9	-27	-32
333	2310	2	10	1870	80	90	910	350	-1	-2	-11	-8	-9.6	-26	-26	-3.2	-25	-38
333	2160	0	7	1140	100	100	1360	340	0	0	-7	-5.6	-0.8	-16	-19	-2.4	-20	-30
333	2570	2	11	2020	90	110	1120	370	-2	-3	-11	-11.7	-9.9	-25	-26	-4.7	-33	-49
333	2780	2	11	2120	110	130	1340	480	-2	-3	-12	-11.8	-10.9	-26	-28	-4.9	-39	-53
334	1980	1	9	1650	70	80	860	460	-1	-2	-9	-5.4	-6.2	-21	-20	-1.7	-24	-30
334	2250	1	9	1400	90	90	1070	310	-1	-2	-9	-6.4	-5.9	-23	-25	-2.6	-20	-32
334	3060	3	15	2180	90	110	880	500	-2	-4	-16	-10.6	-12.2	-28	-32	-3.9	-35	-47
334	2440	2	12	1640	70	70	720	380	-2	-3	-12	-7.6	-6.4	-22	-24	-2.5	-23	-33
334	2460	2	10	1810	90	100	980	320	-1	-3	-11	-8.8	-8	-23	-25	-3.6	-25	-40
334	2350	2	9	1190	110	110	1280	480	-1	-2	-9	0	-3.2	-19	-23	-1.3	-22	-26
361	2530	3	13	1860	100	130	920	430	-1	-2	-11	-5.4	-11.2	-28	-26	-2.5	-27	-39
361	2520	2	10	1840	110	140	1290	370	-1	-2	-9	-9.4	-9.1	-24	-22	-4.3	-33	-50
361	2430	2	11	1800	100	130	1080	380	-1	-2	-10	-7.4	-9.2	-25	-22	-3.3	-29	-43
361	2740	3	12	1880	120	160	1320	360	-1	-2	-10	-7.1	-11.3	-28	-27	-3.9	-29	-47
361	2400	2	11	1600	90	120	990	370	-1	-2	-10	-6	-6.5	-22	-20	-2.6	-25	-37
361	2340	2	10	1660	100	130	1110	360	-1	-2	-9	-8	-10.9	-28	-26	-3.4	-30	-44
362	2150	1	9	1260	100	120	1150	460	-1	-2	-8	-4.3	-3.9	-19	-18	-1.6	-25	-32
362	2300	2	10	1670	100	130	1110	440	-1	-2	-9	-5.5	-6.8	-22	-19	-2.5	-27	-38
362	2470	1	9	1360	120	150	1510	490	-1	-2	-8	-7.9	-4.9	-20	-21	-3.2	-35	-43

362	2400	2	11	1600	80	110	900	270	-2	-2	-10	-8.4	-5.6	-20	-19	-3.4	-24	-40
362	2020	1	7	1110	100	110	1170	310	-1	-1	-6	-4.7	-2.9	-19	-17	-2	-20	-31
362	2120	2	8	1450	100	130	1160	300	-1	-1	-7	0	-6.2	-22	-19	-2.3	-19	-33
331	2680	3	14	2240	80	120	740	370	-2	-3	-13	-10.8	-15.4	-32	-30	-4.3	-34	-52
331	2220	1	9	1780	100	130	1240	420	-1	-2	-8	-9.2	-7.1	-21	-18	-3.8	-34	-48
331	2530	2	12	1860	90	120	900	320	-2	-3	-11	-9.1	-10.2	-25	-25	-3.8	-29	-45
331	2360	2	11	1610	90	120	1070	500	-1	-2	-10	-7.4	-6.8	-21	-20	-2.6	-33	-41
331	2640	2	12	1550	110	130	1260	520	-2	-2	-11	-7.9	-5.8	-20	-22	-2.9	-35	-43
331	2130	1	9	1490	90	110	1090	430	-1	-2	-9	-7.3	-7.2	-23	-21	-2.6	-31	-39
332	2430	1	10	1360	100	130	1290	370	-1	-2	-9	-8.8	-4.6	-20	-20	-3.4	-30	-42
332	2170	1	9	1690	100	130	1240	450	-1	-2	-8	-9.2	-8.1	-23	-20	-3.6	-35	-47
332	2330	2	10	1590	110	130	1200	420	-1	-2	-9	-5.9	-7.5	-23	-22	-2.7	-28	-39
332	2000	1	9	1390	90	110	1070	470	-1	-1	-8	0	-4.5	-19	-17	-1.5	-26	-32
332	2230	1	9	1260	110	130	1360	470	-1	-1	-8	-5.2	-2.2	-16	-16	-2.1	-28	-35
332	2690	2	12	1850	110	140	1200	320	-2	-3	-11	-10.4	-9.2	-24	-24	-4.6	-32	-51
375	2420	2	10	1920	90	130	1080	410	-2	-2	-10	-9.3	-10.2	-26	-22	-3.7	-34	-49
375	2630	2	11	1470	100	130	1150	360	-2	-2	-10	-7	-6.6	-22	-23	-2.8	-27	-40
375	2380	2	9	1230	100	120	1230	390	-1	-2	-8	-5.3	-2.7	-18	-17	-2	-25	-34
375	1830	1	7	1290	80	110	1060	500	-1	-1	-7	0	-4.9	-21	0	-0.9	-27	-30
375	1980	1	7	1270	90	110	1100	310	-1	-1	-6	-4.7	-4.6	-21	-17	-1.9	-21	-32
375	2010	0	6	1190	110	130	1450	350	-1	0	-5	-6.7	-2.9	-18	0	-2.7	-28	-38
405	2480	2	9	1920	110	150	1400	370	-2	-2	-8	-11	-9.6	-25	-21	-4.8	-37	-55
405	2350	1	8	1880	120	160	1520	360	-1	-1	-7	-10.1	-10.3	-26	-21	-4.7	-36	-55
405	2610	2	10	1880	110	150	1290	310	-2	-2	-9	-9	-9.5	-25	-22	-4.3	-30	-50
405	2090	1	8	1630	90	120	1080	330	-1	-1	-7	-4.9	-8.6	-25	-20	-2.4	-24	-37
405	2550	2	9	1890	120	160	1560	410	-1	-2	-8	-10.2	-10.8	-27	-23	-4.7	-38	-56
405	2300	2	10	1880	90	130	1030	430	-1	-2	-9	-7.6	-10.5	-27	-21	-3	-32	-45
406	1540	1	0	1330	80	110	1070	320	-1	-1	0	-4.7	-3.4	-19	0	-1.9	-22	-32
406	1320	1	0	2110	90	140	1190	440	-1	-1	0	-9.2	-12.5	-29	-19	-3.8	-38	-52
406	2430	2	10	1820	100	140	1170	460	-1	-2	-9	-6.6	-8.8	-24	-20	-2.8	-32	-44
406	1900	1	7	1550	80	110	1060	340	-1	-1	-6	-6.1	-7	-23	0	-2.4	-25	-38
406	2400	2	10	1820	100	130	1140	440	-1	-2	-9	-6.5	-9.2	-25	-21	-2.8	-31	-43

406	2330	2	10	1410	90	120	1120	450	-1	-2	-8	-5.6	-5.6	-22	-19	-1.9	-28	-36
115	2410	2	12	1180	90	80	870	410	-1	-3	-14	-4.5	-3.2	-15	-23	-1.1	-23	-29
115	2200	2	11	1240	90	90	950	440	-1	-2	-13	-4.7	-4.1	-16	-22	-1.3	-26	-30
115	2440	2	13	1220	90	80	750	480	-1	-3	-15	0	-3.4	-15	-23	-0.3	-22	-24
115	2540	2	13	1450	90	90	820	490	-1	-3	-15	0	-5.1	-16	-24	-1.1	-26	-31
115	2460	2	12	1310	90	90	940	350	-1	-3	-14	-6.6	-3.8	-15	-23	-2.2	-25	-35
115	1950	1	8	1120	90	80	980	290	-1	-2	-10	-4.6	-2.3	-14	-19	-1.6	-20	-29
116	2890	3	15	1910	110	100	920	500	-2	-3	-16	-6.7	-9.2	-23	-31	-2.6	-31	-40
116	2730	2	13	1540	110	90	1000	390	-2	-3	-15	-6.1	-6.2	-20	-30	-2.4	-25	-35
116	2530	2	13	1500	100	70	790	370	-1	-3	-14	-4.4	-6.5	-21	-29	-1.6	-21	-29
116	2830	2	11	1540	130	110	1410	410	-1	-3	-13	-8.1	-4.3	-17	-27	-3.6	-31	-43
116	2450	2	10	1040	120	90	1200	390	-1	-2	-12	0	-0.6	-14	-24	-1	0	-23
116	2850	2	14	1100	120	80	1060	580	-2	-3	-16	0	-1.5	-15	-28	-0.5	-25	-24
165	2700	3	13	1640	110	90	900	410	-1	-3	-14	-4.7	-7.3	-22	-29	-1.9	-23	-32
165	3220	3	15	1920	120	110	990	350	-2	-4	-16	-8.1	-9.2	-23	-33	-3.6	-27	-43
165	2710	3	15	1850	80	0	480	420	-2	-4	-16	-5.5	-9.9	-25	-31	-1.7	-24	-32
165	2350	3	13	2100	80	0	530	400	-2	-3	-14	-7	-11.2	-26	-28	-2.5	-27	-37
165	2610	2	12	1890	100	90	970	350	-2	-3	-13	-9.6	-9.5	-24	-29	-3.8	-30	-45
165	2920	3	14	1630	110	100	1000	410	-2	-3	-15	-6	-6	-20	-29	-2.4	-25	-35
247	2490	2	11	1540	90	80	900	370	-2	-3	-12	-7.3	-5.7	-21	-25	-2.5	-26	-35
247	2640	2	10	1470	120	110	1360	330	-2	-2	-10	-9.5	-5.2	-21	-26	-3.9	-30	-44
247	2480	2	10	1410	100	90	1070	410	-1	-2	-11	-6	-3.6	-19	-23	-2.1	-25	-33
247	2800	2	12	1580	110	110	1170	400	-2	-3	-12	-8.2	-8.2	-25	-31	-3.2	-30	-41
247	2620	2	12	1970	100	100	940	350	-2	-3	-12	-8	-11.3	-28	-30	-3.5	-28	-43
247	2450	2	12	1650	90	80	820	440	-2	-3	-12	-5.4	-7.5	-24	-26	-1.8	-25	-32
248	2540	2	11	1600	100	90	960	330	-2	-3	-12	-7.9	-7.4	-24	-27	-3	-26	-38
248	2340	2	11	1940	90	90	860	440	-1	-2	-11	-6	-10.2	-26	-26	-2.4	-27	-37
248	2160	2	9	1530	90	80	890	320	-1	-2	-9	-4.5	-4.6	-20	-21	-1.9	-19	-30
248	2090	1	9	1480	80	0	740	340	-1	-2	-10	-6.8	-6.7	-23	-24	-2.1	-24	-32
248	2530	2	11	1480	110	100	1110	430	-1	-2	-11	-6.4	-6.2	-22	-27	-2.3	-28	-35
248	2710	3	13	2130	100	110	980	400	-2	-3	-13	-9.3	-11.6	-27	-29	-3.9	-33	-47
103	2730	2	10	1410	130	110	1420	310	-1	-3	-13	-6.6	-3.5	-16	-28	-3.3	-23	-38

103	2170	1	8	1440	120	100	1330	400	0	-2	-11	-5.2	-4.7	-18	-25	-2.4	-24	-34
103	2730	2	13	1580	110	90	1090	460	-2	-3	-15	-7	-5.7	-19	-29	-2.5	-28	-37
103	2870	3	13	1400	120	100	1190	370	-1	-3	-15	-5	-5.5	-20	-32	-2.3	-21	-32
103	2640	2	12	1630	110	80	1040	370	-1	-3	-15	-7.7	-6.8	-20	-30	-3	-26	-38
103	2530	2	13	1910	90	80	860	490	-2	-3	-16	-8.6	-9.9	-24	-31	-2.9	-33	-41
249	2600	2	11	1710	100	100	1110	420	-1	-3	-12	-5.9	-6.1	-21	-25	-2.6	-25	-36
249	2610	2	10	1530	110	100	1240	380	-1	-3	-11	-7	-5.7	-21	-27	-3	-26	-38
249	2320	2	11	1360	90	80	930	510	-1	-2	-12	0	-4.5	-21	-25	-0.6	-22	-24
249	2720	2	11	1640	120	110	1330	490	-1	-3	-12	-7.2	-6	-21	-26	-3	-31	-41
249	2760	2	11	1910	110	120	1310	420	-2	-3	-12	-9.4	-8.8	-24	-28	-4.1	-33	-48
249	2110	2	9	1770	90	90	1000	370	-1	-2	-10	-5.7	-8	-23	-24	-2.5	-24	-36
345	2520	3	10	1640	80	100	940	380	-2	-3	-9	-6.6	-7.9	-23	-25	-2.8	-28	-40
345	2360	2	8	1460	90	110	1220	490	-1	-2	-8	-5.6	-7.5	-23	-25	-2.4	-32	-39
345	2710	3	11	1630	90	110	990	420	-2	-3	-10	-4.7	-7	-21	-25	-2.3	-26	-37
345	1650	1	0	1390	90	120	1340	470	-1	-2	0	-6.3	-4.4	-19	-19	-2.7	-32	-40
345	2500	2	7	1270	110	130	1440	410	-1	-2	-7	-5.5	-3.5	-18	-22	-2.8	-28	-39
345	2240	2	0	1440	90	100	1150	340	-1	-2	0	-5.8	-4.9	-19	-20	-2.8	-25	-38
346	2420	2	8	1470	90	110	1140	410	-1	-2	-8	0	-6.4	-21	-24	-2	-24	-34
346	2420	2	8	1330	90	100	1140	350	-1	-2	-7	-4.9	-3.7	-18	-21	-2.4	-23	-35
346	2410	2	8	1550	100	120	1210	380	-1	-2	-7	0	-6.7	-21	-23	-2.5	-24	-37
346	2010	2	0	1370	70	80	900	360	-1	-2	0	-5.2	-5.2	-20	-20	-2	-24	-33
346	2640	3	10	1970	90	120	1110	400	-2	-3	-9	-8.4	-12.4	-28	-29	-4	-34	-49
346	2270	2	8	1580	0	100	960	300	-1	-2	-7	-6.3	-5.8	-20	-20	-3	-24	-38
359	2400	2	7	1530	100	120	1360	310	-1	-2	-6	-7.9	-5.9	-20	-22	-3.9	-28	-45
359	2590	2	9	1510	100	130	1330	450	-2	-3	-8	-6.8	-6	-21	-24	-3.1	-32	-43
359	2850	2	9	1420	120	140	1490	340	-2	-3	-8	-7.9	-6.2	-22	-27	-4	-30	-46
359	2300	2	8	1880	90	120	1150	400	-1	-2	-7	-8.4	-10.2	-25	-24	-3.8	-33	-48
359	2290	2	7	1580	90	110	1180	410	-1	-2	-7	-5.8	-6.9	-22	-22	-2.7	-28	-40
359	2250	2	7	1570	100	120	1220	390	-1	-2	-6	0	-6.9	-22	-22	-2.4	-25	-37
105	2450	2	10	1500	90	80	910	380	-1	-3	-12	-5.9	-5.7	-16	-26	-2.4	-26	-36
105	2610	3	11	1890	100	110	1090	430	-1	-3	-13	-7.7	-10.2	-21	-30	-3.6	-33	-47
105	2760	2	9	1590	120	130	1510	280	-1	-3	-11	-9.4	-7.7	-19	-30	-4.9	-31	-51

105	2410	2	9	1680	90	90	1040	340	-1	-3	-12	-8	-8.9	-20	-29	-3.6	-29	-44
105	2520	2	10	1220	100	80	1030	270	-1	-3	-12	-5.1	-3.5	-15	-26	-2.4	-20	-33
105	2680	2	11	1150	90	80	940	420	-2	-4	-14	-4.8	-2.3	-13	-26	-1.6	-24	-30
106	2420	2	10	1490	90	100	1080	360	-1	-2	-11	-7.9	-7	-18	-26	-3.3	-28	-41
106	2840	2	11	1410	120	130	1430	390	-1	-3	-12	-8	-3.6	-13	-25	-3.8	-30	-44
106	2960	3	16	1990	90	100	730	490	-2	-4	-17	-7.7	-11.6	-22	-32	-3	-33	-44
106	2730	3	13	1300	90	90	830	430	-2	-3	-14	-5.4	-4.8	-15	-27	-1.8	-25	-32
106	2580	2	12	1700	100	110	1060	450	-1	-3	-13	-8.3	-8.8	-19	-28	-3.4	-33	-44
106	2780	2	13	0	90	90	950	450	-2	-3	-14	0	0	0	-22	-1	-20	-25
211	2590	2	10	1210	100	120	1210	370	-1	-2	-10	-5.2	-2.8	-14	-22	-2.4	-23	-34
211	2480	2	11	1240	90	100	940	340	-1	-2	-10	0	-3.6	-16	-23	-1.9	-19	-30
211	2770	2	11	1490	100	120	1210	440	-2	-3	-11	-7	-5.1	-16	-24	-3.1	-30	-41
211	2590	3	13	1530	70	80	650	360	-2	-3	-13	-6.9	-6.5	-18	-25	-2.4	-24	-35
211	2520	2	10	1320	100	110	1170	440	-1	-2	-10	-6.6	-4.8	-17	-24	-2.6	-29	-38
211	2180	2	10	1190	70	80	820	410	-1	-2	-10	0	-1.9	-13	-18	-1.1	-20	-26
212	2740	2	11	1480	110	130	1290	440	-1	-2	-11	-6.9	-7.5	-20	-28	-3.2	-31	-42
212	2410	2	10	1120	90	100	1030	390	-1	-2	-10	-6.4	-5	-19	-26	-2.2	-26	-34
212	2270	2	10	1560	80	90	830	270	-1	-2	-10	-6.8	-7.9	-20	-24	-3	-22	-37
212	2590	2	11	1630	100	120	1070	360	-1	-2	-11	-6.6	-7.3	-19	-25	-3.2	-26	-41
212	2140	2	9	1350	70	90	850	370	-1	-2	-9	-6.5	-6.1	-19	-23	-2.3	-25	-34
212	2380	2	11	1870	70	100	780	450	-2	-3	-12	-8.7	-10.7	-23	-26	-3.2	-33	-44
220	2400	2	10	1390	100	120	1140	400	-1	-2	-9	-4.7	-4.4	-16	-21	-2.3	-24	-35
220	2550	2	10	1460	100	120	1230	470	-1	-2	-10	-7.2	-5.8	-18	-24	-3	-32	-41
220	2290	2	10	1400	80	100	920	340	-1	-2	-9	-4.6	-4.6	-16	-21	-2.1	-20	-32
220	2840	3	12	2230	100	140	1150	370	-2	-3	-12	-12.7	-12.3	-24	-27	-5.7	-39	-60
220	2280	2	9	1140	90	110	1110	400	-1	-2	-9	0	-3.5	-16	-22	-1.7	-22	-30
220	2360	2	9	1440	100	120	1270	370	-1	-2	-8	-7	-5.6	-18	-22	-3.3	-28	-41
350	2440	1	8	1300	110	110	1250	310	-1	-2	-9	-8.6	-4	-16	-23	-3.4	-25	-39
350	2850	2	12	1370	120	120	1200	430	-2	-3	-12	-6.5	-4.5	-17	-26	-2.5	-26	-36
350	2350	1	9	1020	100	100	1170	420	-1	-2	-9	-5.9	-2.5	-16	-23	-1.8	-24	-30
350	2480	2	10	1350	110	110	1190	560	-1	-2	-11	-6.3	-6.2	-20	-26	-1.9	-32	-35
350	2380	2	10	1830	110	120	1120	380	-1	-2	-10	-7.8	-9.2	-21	-24	-3.4	-28	-43

350	2600	2	11	1440	100	100	1000	450	-2	-3	-12	-7.1	-6.7	-20	-27	-2.3	-28	-36
363	2530	2	11	1720	100	100	930	380	-2	-2	-11	-7.1	-8.7	-22	-26	-2.8	-25	-38
363	2570	2	11	1550	100	100	990	340	-2	-2	-11	-7.7	-7.9	-21	-27	-3	-25	-38
363	2420	2	10	1280	110	110	1150	500	-1	-2	-10	-5.1	-4.4	-17	-23	-1.6	-26	-31
363	2720	2	11	1440	120	120	1300	500	-2	-2	-11	-7.8	-6.5	-20	-27	-2.8	-32	-40
363	2470	2	11	1500	100	100	970	440	-1	-2	-11	-6.4	-8.2	-22	-27	-2.2	-26	-35
363	3090	3	13	1930	120	140	1230	410	-2	-3	-13	-9.6	-11.6	-25	-32	-4.2	-33	-50
365	2510	2	11	1720	100	110	1070	430	-1	-2	-11	-7.7	-10.2	-24	-28	-3	-30	-41
365	2470	2	9	1540	110	120	1200	360	-1	-2	-9	-7.9	-6.9	-20	-25	-3.3	-27	-40
365	2520	2	11	1840	90	110	920	410	-2	-2	-11	-8.2	-10.2	-23	-27	-3.1	-29	-42
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365	2770	2	12	1850	110	120	1190	520	-2	-3	-12	-11	-8.5	-20	-26	-3.9	-39	-50
365	2480	2	9	1100	120	120	1300	410	-1	-2	-9	0	-2.7	-16	-23	-1.7	-21	-29
378	2250	1	8	1300	90	110	1130	330	-1	-2	-7	-4.5	-3.2	-20	-18	-1.8	-20	-31
378	2350	1	9	1560	90	110	1150	380	-1	-2	-8	-7	-5.7	-22	-19	-2.7	-27	-39
378	2010	2	9	2120	70	100	780	340	-1	-2	-8	-8.8	-11.2	-28	-19	-3.3	-29	-45
378	2540	2	11	1960	90	120	1130	410	-2	-2	-9	-10.5	-8.9	-25	-21	-4	-35	-50
378	2350	1	8	1440	110	130	1400	410	-1	-1	-6	-5.2	-3.4	-19	0	-2.3	-26	-37
378	2590	2	12	2170	0	110	800	330	-2	-3	-11	-9.7	-10.9	-27	-23	-3.8	-29	-48
337	2480	1	9	1490	120	130	1490	500	-1	-2	-8	-6.7	-4.4	-20	-20	-2.7	-33	-41
337	2190	1	9	1660	90	110	1150	480	-1	-2	-8	-7.4	-6.3	-22	-19	-2.6	-32	-41
337	2040	0	7	1620	100	120	1300	450	-1	0	-6	-7.1	-6.1	-22	-18	-2.7	-32	-41
337	2170	1	8	1550	90	110	1140	400	-1	-1	-7	-5.2	-4.8	-20	0	-2.1	-25	-35
337	2690	2	11	1630	110	130	1300	350	-1	-2	-9	-7.2	-6.7	-23	-23	-3.3	-27	-42
337	2500	2	11	1820	80	100	940	380	-2	-2	-10	-7.9	-7.9	-24	-22	-3	-28	-42
338	2650	2	11	1890	100	130	1270	380	-2	-2	-10	-9.9	-8.4	-24	-23	-4.1	-33	-50
338	2500	2	10	1770	100	120	1220	460	-1	-2	-9	-6.6	-6.1	-21	-19	-2.8	-30	-42
338	2230	2	12	1890	0	80	560	420	-2	-3	-11	-6.5	-7.9	-23	-19	-1.9	-26	-35
338	2650	2	11	1860	100	130	1300	520	-2	-2	-10	-8.4	-6.4	-21	-20	-3.3	-36	-47
338	2090	1	7	1350	100	120	1320	460	-1	-1	-6	0	-3.4	-19	0	-1.7	-26	-33
338	2180	1	9	1150	90	100	1150	500	-1	-2	-8	0	-2	-18	-18	-0.7	-24	-27
351	2530	2	11	1870	90	110	1010	320	-2	-2	-10	-8.2	-8.9	-25	-23	-3.5	-27	-44

351	2310	1	9	1760	90	120	1220	420	-1	-2	-8	-8.5	-7.4	-23	-20	-3.3	-33	-45
351	2510	1	10	1280	110	120	1330	510	-1	-2	-9	-5.2	-2.2	-18	-18	-1.7	-29	-34
351	2410	1	9	1690	100	130	1380	400	-1	-2	-8	-9	-6.8	-23	-20	-3.7	-33	-47
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351	2310	0	7	1470	110	130	1490	320	-1	0	-6	-8.1	-5.1	-22	-20	-3.6	-28	-44
352	2560	2	10	1960	110	150	1390	390	-2	-2	-8	-9.4	-9.7	-28	-23	-4.5	-36	-54
352	2270	2	11	1750	80	110	900	380	-1	-2	-8	0	-7	-25	-19	-2	-23	-36
352	2580	2	10	1640	110	140	1430	340	-2	-2	-8	-7.9	-6	-24	-21	-3.9	-31	-48
352	2420	2	11	1960	90	130	1070	400	-2	-2	-9	-6.4	-9.2	-27	-21	-3.1	-30	-45
352	2600	2	13	1710	90	120	1020	500	-2	-2	-11	-5.9	-7.7	-26	-23	-2.3	-32	-41
352	2190	1	9	1430	90	110	1090	450	-1	-2	-7	0	-3	-21	0	-1.6	-27	-34
383	2150	1	8	1590	100	130	1230	370	-1	-1	-6	-4.4	-5.8	-25	0	-2.4	-25	-39
383	2230	2	10	1930	90	130	1160	430	-1	-2	-7	-6.8	-8.6	-27	-18	-3.2	-32	-46
383	2240	2	9	1820	90	120	1140	370	-1	-2	-7	-6.8	-7.9	-26	-19	-3.2	-29	-45
383	2220	1	9	1660	90	120	1110	370	-2	-2	-7	-6.3	-6.4	-25	-18	-2.8	-28	-42
383	2160	1	9	1860	100	130	1230	460	-1	-1	-6	-6.3	-8.5	-27	-18	-3	-33	-45
383	2130	2	10	1620	70	100	790	420	-2	-2	-8	0	-5.8	-24	0	-1.4	-24	-33
305	2480	2	11	1410	100	120	1210	390	-2	-2	-9	-5	-4.8	-23	-22	-2.4	-26	-38
305	2130	1	7	1450	120	140	1510	270	-1	-1	-5	-5.9	-3.2	-20	0	-3.5	-24	-43
305	1810	1	8	1520	80	100	1060	410	-1	-1	-6	-4.8	-4	-21	0	-2	-27	-36
305	2350	2	11	1720	90	120	1040	410	-1	-2	-9	-4.9	-7	-24	-21	-2.4	-27	-39
305	2350	2	11	1440	90	100	990	400	-2	-2	-9	-4.3	-2.9	-20	0	-1.8	-24	-34
305	2380	1	10	1810	110	140	1400	430	-1	-2	-8	-7.5	-7.4	-24	-20	-3.7	-34	-49
320	2560	2	11	1980	100	130	1140	340	-2	-2	-9	-7.3	-8.7	-26	-22	-3.7	-29	-48
320	2570	2	10	1840	120	150	1390	340	-1	-2	-8	-7.4	-7.4	-24	-21	-4	-30	-49
320	2300	2	10	2170	90	130	1150	400	-1	-2	-8	-8.9	-9.8	-26	-19	-4.1	-35	-53
320	2160	2	10	2150	80	110	860	340	-2	-2	-9	-8.9	-10.7	-28	-20	-3.8	-31	-49
320	2530	2	12	1990	90	110	930	340	-2	-3	-11	-8.3	-10.5	-29	-24	-3.6	-30	-48
320	2230	2	10	1910	90	120	1070	350	-1	-2	-8	-6.3	-8.5	-26	-20	-3.1	-27	-44
321	2280	2	9	1810	100	130	1140	390	-1	-2	-8	-7.8	-9.3	-24	-22	-3.7	-32	-47
321	2250	2	9	1770	100	130	1220	380	-1	-2	-8	-7.6	-10.1	-26	-23	-3.8	-32	-47
321	2230	2	12	1790	60	90	580	470	-2	-3	-11	-5.6	-9.9	-26	-23	-1.9	-29	-36

321	2450	2	11	1920	100	130	1110	490	-2	-2	-10	-7.7	-10.1	-25	-23	-3.4	-36	-48
321	1860	1	8	1450	70	90	790	380	-1	-2	-7	-4.6	-4.6	-19	-15	-1.8	-23	-32
321	2180	2	9	1620	100	130	1170	510	-1	-2	-8	-4.8	-8.2	-24	-21	-2.3	-32	-39
322	2400	2	9	1240	110	120	1260	330	-1	-2	-8	-4	-3	-18	-19	-2.4	-22	-34
322	2620	2	10	1500	110	130	1270	340	-2	-2	-9	-8.3	-5.8	-21	-22	-3.9	-30	-45
322	1870	1	8	1350	80	90	890	460	-1	-2	-7	0	-4.3	-19	-16	-1.2	-25	-30
322	2880	2	11	1770	120	150	1380	370	-2	-3	-11	-9.4	-9.5	-25	-27	-4.7	-35	-53
322	2820	2	11	1230	130	150	1470	490	-2	-2	-10	-4.3	-3.1	-18	-23	-2.3	-29	-37
322	2620	2	12	1750	100	120	1060	430	-2	-3	-11	-7.1	-8.5	-23	-24	-3.3	-31	-44
335	2070	1	8	1360	90	120	1190	440	-1	-2	-7	-5.1	-4.7	-20	-18	-2.3	-28	-36
335	2740	2	11	1850	110	140	1210	390	-2	-3	-10	-9.2	-9.8	-25	-25	-4.3	-34	-51
335	2180	1	9	1350	90	110	1100	430	-1	-2	-8	-5.4	-4.8	-20	-19	-2.3	-28	-36
335	2510	2	9	1120	120	130	1400	370	-1	-2	-8	0	-2.3	-18	-20	-2.2	-22	-33
335	2170	2	10	1400	80	100	870	450	-1	-2	-9	0	-6	-22	-20	-1.5	-25	-32
335	2000	2	9	1790	80	110	860	390	-1	-2	-8	-4.8	-8.8	-24	-19	-2.4	-26	-38
380	2620	2	11	1990	100	140	1140	380	-2	-3	-9	-9.9	-10.7	-26	-24	-4.6	-35	-53
380	1520	1	0	1390	100	130	1220	270	-1	-1	0	-5.4	-5.9	-23	-19	-3	-22	-38
380	2330	2	9	1560	80	110	930	280	-2	-2	-8	-6.3	-6.4	-22	-20	-3	-23	-39
380	2270	2	9	1580	100	130	1230	450	-1	-2	-7	-5.4	-7.2	-23	-20	-2.7	-30	-40
380	2720	3	12	1990	100	130	1060	380	-2	-3	-10	-9.4	-11.8	-28	-27	-4.3	-34	-51
380	2670	2	10	1550	110	140	1380	340	-2	-2	-8	-7.8	-5.8	-21	-21	-4	-29	-46
381	2640	3	10	1430	120	120	1170	480	-1	-2	-10	-4.6	-6.7	-21	-27	-2	-26	-33
381	2530	2	10	1440	110	110	1040	360	-2	-3	-10	-6.4	-7.2	-21	-27	-2.7	-24	-35
381	2570	2	10	1410	100	110	1030	410	-2	-3	-10	-6.5	-5.4	-18	-24	-2.5	-25	-34
381	2560	2	11	1440	100	100	930	500	-2	-3	-11	-5.2	-4.6	-17	-23	-1.7	-25	-31
381	2360	2	10	1340	100	100	930	540	-1	-2	-10	-4.2	-5.8	-20	-24	-1.2	-26	-28
381	2230	2	8	1300	110	110	1140	510	-1	-2	-8	-5.1	-5.1	-19	-23	-1.7	-27	-31
453	3280	4	13	2090	130	150	1210	340	-3	-3	-13	-10.4	-14.3	-30	-36	-5.1	-32	-53
453	2980	3	12	1810	110	120	1020	390	-3	-3	-12	-10	-10.3	-25	-30	-4	-31	-46
453	1980	1	5	0	100	100	1170	300	-1	-1	-5	0	0	0	-17	-1.3	-14	-22
453	1980	2	8	1620	80	90	720	390	-1	-2	-8	-5.4	-8.2	-23	-21	-1.9	-22	-31
453	2670	3	11	1530	100	110	910	430	-2	-3	-11	-5.5	-8.3	-24	-28	-2.1	-24	-33

453	2670	2	8	1390	140	160	1650	350	-1	-2	-7	-7.2	-6.6	-22	-26	-3.9	-27	-43
454	2950	3	11	1560	130	150	1360	490	-2	-2	-10	-6	-8.1	-23	-29	-2.9	-29	-40
454	2490	2	9	1940	100	130	1090	290	-2	-2	-8	-10	-12	-27	-27	-4.6	-29	-48
454	2070	2	9	1800	90	120	920	530	-1	-2	-8	-4.5	-11.3	-27	-25	-1.8	-28	-34
454	2900	3	11	1500	130	140	1330	450	-2	-3	-10	-7.6	-7.6	-23	-28	-3.3	-30	-41
454	2400	2	8	0	120	120	1270	460	-1	-2	-7	0	0	0	-19	-0.8	-18	-22
454	2270	2	8	1240	100	110	1100	490	-1	-2	-8	-4.9	-5.1	-20	-23	-1.6	-26	-30
250	2590	2	9	1080	140	130	1550	510	-1	-2	-11	-6.6	-2.3	-13	-25	-2.6	-31	-36
250	2810	3	11	1490	120	120	1170	400	-2	-3	-13	-7.8	-6.9	-18	-30	-3.3	-27	-40
250	2260	2	9	1360	100	90	960	370	-1	-2	-11	-6.1	-5.9	-18	-26	-2.3	-23	-32
250	2350	2	9	0	110	90	1080	310	-1	-2	-10	0	0	0	-24	0	0	0
250	2420	2	10	1180	110	100	1110	430	-1	-2	-11	-4.8	-4.7	-17	-27	-1.8	-23	-29
250	2200	2	8	1050	110	90	1080	280	-1	-2	-9	-5	-2	-13	-23	0	0	0
107	2820	3	14	1880	100	80	820	480	-2	-4	-18	-10.4	-10	-21	-33	-3.6	-37	-47
107	2120	1	9	1150	100	70	930	340	-1	-2	-12	-5	-3.3	-15	-25	-1.8	-21	-29
107	2650	2	11	1460	120	100	1130	310	-1	-3	-14	-7.2	-6.8	-19	-31	-3.3	-25	-40
107	2700	2	12	1560	120	90	1040	370	-1	-3	-15	-6.9	-7.7	-19	-32	-3.1	-27	-40
107	2580	2	13	1900	110	90	940	450	-1	-3	-15	-7.4	-9.2	-20	-30	-3.2	-31	-43
107	2480	2	11	1600	120	100	1120	430	-1	-3	-14	-6.2	-5.3	-15	-26	-2.8	-28	-39
108	2760	2	12	1350	130	100	1180	360	-1	-3	-15	-6.8	-6	-18	-32	-3	-26	-38
108	2790	2	14	1530	100	80	830	530	-2	-4	-18	-8.1	-8.3	-21	-34	-2.4	-35	-39
108	2740	2	11	1520	130	110	1270	280	-1	-3	-14	-7.3	-7	-19	-32	-3.8	-25	-42
108	2440	2	12	1940	100	80	900	380	-2	-3	-15	-11.3	-11.3	-23	-31	-4.4	-36	-50
108	2490	2	10	1190	120	90	1220	370	-1	-3	-13	-6.3	-2.9	-14	-27	-2.6	-25	-35
108	2480	2	12	1560	90	0	730	370	-2	-3	-15	-7.7	-6.8	-18	-29	-2.7	-27	-37
119	3020	3	14	1840	130	110	1220	510	-2	-4	-17	-10.4	-9.7	-21	-34	-4.2	-40	-51
119	2680	2	11	1350	110	90	1060	250	-2	-3	-14	-8.3	-5.5	-17	-31	-3.6	-24	-40
119	2980	3	13	1590	130	110	1190	340	-2	-3	-16	-9	-6.8	-18	-32	-4	-30	-45
119	3140	3	15	1890	120	100	960	350	-2	-4	-18	-9.6	-11.2	-23	-37	-4.2	-31	-48
119	2640	2	12	1740	110	90	980	340	-1	-3	-15	-7.9	-8.1	-19	-30	-3.5	-28	-43
119	3050	3	14	1730	120	100	1080	430	-2	-4	-17	-9.4	-9	-21	-35	-3.8	-34	-47
120	2870	2	12	1180	140	110	1320	350	-1	-3	-14	-4.8	-2.3	-13	-29	-2.5	-22	-34

120	2640	2	12	1810	120	110	1150	450	-1	-3	-15	-9.2	-10.4	-23	-33	-3.9	-36	-48
120	2670	2	11	1390	120	100	1200	340	-1	-3	-14	-8.5	-5	-16	-29	-3.6	-28	-42
120	2740	3	14	1410	90	0	620	300	-2	-3	-17	-4.4	-5.4	-17	-30	0	0	0
120	2590	1	9	1070	130	110	1540	430	-1	-3	-12	-8.2	-0.7	-11	-25	-3.3	-32	-41
120	2640	2	11	1600	120	100	1170	360	-1	-3	-14	-7.6	-7.8	-20	-31	-3.5	-29	-43
131	2720	2	13	1370	100	80	1060	550	-2	-3	-15	-6.7	-3.9	-16	-29	-1.9	-32	-35
131	2650	2	13	1750	90	80	860	330	-2	-3	-15	-9	-7.9	-20	-31	-3.4	-28	-42
131	2610	2	12	1620	110	90	1020	440	-1	-3	-14	-5	-4.3	-15	-26	-2.1	-24	-34
131	2420	2	11	1410	100	80	990	350	-1	-2	-13	-4.7	-3.9	-16	-26	-1.9	-20	-31
131	2600	2	13	2250	90	90	860	400	-2	-3	-15	-11.3	-11.8	-23	-31	-4.4	-35	-52
131	2750	2	13	2090	100	100	990	380	-2	-3	-15	-11.5	-12	-24	-34	-4.6	-35	-52
132	2750	2	11	1540	120	100	1250	280	-1	-3	-13	-7.8	-7	-20	-32	-3.7	-25	-42
132	2820	2	13	1320	110	90	1070	370	-2	-3	-15	-6.4	-3.7	-16	-30	-2.4	-24	-34
132	2840	2	13	1370	110	80	990	410	-2	-3	-15	-5.3	-4.4	-17	-31	-1.9	-23	-32
132	2950	3	15	1680	100	80	860	400	-2	-4	-17	-8	-5.5	-16	-30	-2.8	-27	-39
132	2630	3	14	1830	80	0	640	360	-2	-4	-16	-7.3	-9.4	-22	-32	-2.6	-25	-37
132	2470	2	11	1240	100	70	1040	530	-1	-3	-14	-4.7	-0.6	-11	-23	-1.2	-26	-29
133	2470	2	12	1120	90	70	910	440	-1	-3	-14	0	-0.9	-13	-25	-0.9	-21	-25
133	2130	1	8	1220	110	90	1220	440	0	-2	-10	0	-2	-14	-23	-1.5	-23	-29
133	2740	2	13	1640	100	80	970	450	-2	-3	-15	-8.7	-7	-19	-31	-3	-32	-41
133	2560	2	12	1700	100	90	1050	440	-1	-3	-14	-7.2	-6.4	-18	-28	-2.8	-29	-40
133	2430	2	11	1550	100	90	1100	510	-1	-3	-13	-7.4	-6.2	-18	-28	-2.5	-33	-39
133	2670	2	12	1850	110	100	1120	290	-1	-3	-13	-9.6	-8.4	-20	-30	-4.3	-28	-47
134	2490	2	12	1700	90	70	810	440	-1	-3	-14	-6.5	-6.6	-18	-28	-2.2	-27	-36
134	2740	2	12	1560	110	90	1100	420	-1	-3	-14	-7.2	-5.7	-18	-30	-2.8	-28	-39
134	2920	3	15	2070	100	90	850	470	-2	-4	-17	-8.7	-9.8	-21	-32	-3.3	-33	-45
134	2640	2	12	1310	100	70	880	350	-1	-3	-14	-4.4	-3.9	-16	-29	-1.6	-19	-28
134	2890	2	13	1230	120	100	1290	510	-1	-3	-15	-5.4	-1.3	-13	-27	-1.9	-28	-33
134	2440	2	10	1130	110	90	1240	480	-1	-2	-12	0	-0.3	-12	-24	-1.3	-24	-28
145	2440	1	9	1320	120	120	1520	490	-1	-2	-10	-8.5	-4.4	-16	-25	-2.9	-32	-39
145	2220	2	9	1190	90	80	1010	420	-1	-2	-10	0	-2.4	-13	-22	-0.8	-17	-23
145	3540	3	16	1730	120	130	1240	370	-2	-4	-17	-10.1	-6.4	-16	-32	-4.1	-27	-45

145	2380	2	11	1440	90	100	1080	530	-1	-2	-11	-4.9	-4.7	-15	-24	-1.3	-25	-29
145	2500	2	11	1310	80	70	900	410	-2	-3	-13	-7.9	-3.9	-15	-25	-2	-24	-31
145	2560	2	10	1300	100	100	1170	370	-1	-3	-12	-8.4	-5.1	-17	-28	-2.7	-25	-35
157	2340	1	9	990	100	90	1220	420	-1	-2	-10	-5.5	0	-11	-21	-1.4	-21	-26
157	2700	2	11	1430	110	110	1270	380	-1	-3	-12	-8	-4.2	-15	-26	-3	-25	-37
157	2970	3	13	1400	110	110	1200	390	-2	-3	-14	-7.5	-4.2	-15	-28	-2.7	-23	-35
157	2480	2	11	2040	90	110	1100	460	-1	-3	-12	-11	-11.5	-23	-29	-3.9	-35	-48
157	2650	2	11	1430	110	110	1250	400	-1	-3	-12	-6.8	-8.1	-21	-32	-2.6	-24	-35
157	2820	3	13	1410	100	100	1100	560	-2	-3	-14	-5.7	-5.3	-17	-29	-1.5	-27	-31
169	2200	2	9	990	80	70	900	340	-1	-2	-10	0	-1.5	-13	-23	-0.4	-11	-17
169	2430	2	12	1300	70	0	680	510	-1	-3	-13	-4.2	-4.7	-17	-26	-0.3	-20	-22
169	2830	3	13	1780	90	90	840	270	-2	-3	-14	-8.4	-8.1	-19	-29	-3.2	-20	-38
169	3190	3	13	1470	110	110	1200	270	-2	-4	-14	-9.1	-5.3	-16	-31	-3.7	-21	-39
169	2730	2	10	960	110	100	1390	440	-1	-3	-11	-7.6	-0.8	-12	-26	-2.2	-26	-32
169	2650	2	11	1590	100	110	1170	350	-1	-3	-12	-9.9	-6.9	-18	-28	-3.6	-27	-41
227	2590	2	11	1710	110	110	1110	340	-1	-3	-12	-8	-6.8	-19	-25	-3.3	-24	-40
227	2430	2	12	1530	90	80	770	370	-2	-3	-13	-5.8	-5.7	-18	-24	-1.8	-20	-29
227	2420	2	9	1120	120	110	1270	380	-1	-2	-10	-4.8	-2.2	-15	-23	-1.7	-20	-28
227	2210	1	9	1460	90	90	990	420	-1	-2	-11	-7.6	-5.5	-18	-23	-2.3	-27	-34
227	2750	3	13	1590	100	100	980	480	-2	-3	-14	-6.3	-5.5	-17	-26	-2	-26	-34
227	2450	2	10	1330	110	100	1130	370	-1	-2	-11	-6.2	-4.2	-17	-24	-2.2	-22	-32
228	2680	2	11	1520	110	110	1240	330	-2	-3	-12	-9.8	-5.2	-17	-25	-3.7	-28	-42
228	2480	2	10	1400	100	100	1070	330	-1	-3	-12	-6.9	-3.6	-15	-23	-2.5	-21	-33
228	2340	2	10	1360	100	90	1020	280	-1	-2	-11	-5.4	-4.4	-17	-24	-2.1	-17	-29
228	2500	2	11	1540	110	110	1120	500	-1	-2	-12	-5.5	-5.1	-17	-23	-1.8	-26	-33
228	2650	2	11	1710	110	110	1140	390	-2	-3	-13	-8.1	-7.9	-20	-27	-3.2	-27	-40
228	2610	2	11	1630	110	110	1100	430	-1	-3	-13	-7	-6.5	-19	-26	-2.6	-26	-37
251	2860	3	13	1810	110	120	1140	460	-2	-3	-14	-7.7	-7.6	-20	-27	-3	-29	-41
251	3070	3	16	2250	90	100	690	380	-3	-4	-17	-10.9	-12.9	-25	-32	-4	-30	-47
251	2130	1	8	1710	100	100	1070	230	-1	-2	-9	-8.5	-7.7	-20	-23	-3.6	-22	-40
251	2160	1	9	1020	100	90	1040	440	-1	-2	-10	0	-0.8	-14	-20	-0.3	-17	-20
251	2310	2	12	1880	80	90	670	350	-1	-3	-12	-5.7	-10.4	-24	-27	-2.1	-20	-33

251	2860	2	12	1440	110	110	1160	420	-2	-3	-14	-6.7	-5.4	-18	-28	-2.5	-25	-35
252	2720	3	13	1620	100	100	1000	480	-2	-3	-14	-5.8	-5.2	-17	-24	-1.9	-25	-33
252	2620	2	11	1520	120	120	1240	430	-1	-2	-12	-5.4	-5.6	-18	-25	-2.3	-24	-34
252	2570	2	11	1530	110	110	1100	480	-1	-2	-12	-4.7	-5.1	-17	-24	-1.7	-24	-31
252	2760	2	10	1780	130	140	1440	230	-1	-2	-11	-9.7	-7.4	-20	-26	-4.8	-25	-47
252	2420	2	11	1860	90	100	860	400	-1	-3	-12	-7	-9.3	-22	-26	-2.6	-25	-37
252	2390	2	10	1440	100	100	1070	340	-1	-2	-11	-7.3	-5	-18	-23	-2.7	-23	-34
143	2590	2	12	1340	110	100	1070	410	-2	-3	-14	-5.3	-3.8	-17	-26	-2.5	-27	-36
143	2940	3	14	1990	110	120	1010	430	-2	-4	-17	-7.9	-9.1	-21	-30	-3.9	-34	-48
143	2260	2	11	1810	80	80	750	350	-1	-3	-14	-6.1	-7.7	-20	-25	-2.9	-26	-39
143	2610	2	12	1800	110	110	1180	450	-2	-3	-14	-8.8	-6.3	-18	-25	-4	-37	-49
143	3070	3	13	1560	120	120	1190	260	-2	-4	-16	-7.2	-5.7	-19	-31	-4	-25	-44
143	2590	2	13	1510	100	100	950	490	-2	-3	-15	-4.4	-4.9	-18	-26	-1.9	-29	-35
144	2490	2	10	1340	120	110	1240	370	-1	-2	-12	-4.4	-3	-16	-24	-2.6	-25	-36
144	2830	2	12	1530	120	120	1280	420	-2	-3	-14	-5.5	-4.3	-16	-27	-3.1	-29	-41
144	2340	2	10	1410	110	100	1130	470	-1	-3	-13	-4.8	-4	-17	-24	-2.2	-29	-36
144	2400	2	11	1590	110	110	1040	390	-1	-3	-13	-4.5	-5.9	-19	-25	-2.5	-26	-37
144	2730	2	12	1730	110	110	1100	400	-2	-3	-15	-7.7	-7.3	-20	-28	-3.7	-32	-45
144	2710	2	11	1660	130	130	1420	320	-1	-3	-13	-7.5	-6.9	-20	-29	-4.4	-30	-48
155	2870	2	11	1500	130	140	1510	410	-2	-3	-13	-7.7	-5.8	-19	-29	-4.1	-34	-48
155	2520	3	13	1890	90	100	820	450	-2	-3	-15	-6.2	-9.2	-22	-28	-2.9	-31	-42
155	2350	2	10	1040	110	100	1140	490	-1	-2	-12	0	-0.1	-13	-22	-0.8	-23	-25
155	2260	2	11	1540	90	90	890	410	-1	-2	-13	-3	-4.7	-17	-23	-1.8	-23	-32
155	1990	1	9	1560	80	80	880	390	-1	-2	-11	-5.3	-5.8	-19	-22	-2.4	-27	-36
155	2520	2	12	1690	90	90	870	410	-2	-3	-15	-7	-8.3	-22	-29	-3	-31	-41
156	2400	2	12	1990	80	90	710	370	-2	-3	-15	-7	-10.7	-24	-29	-3.3	-30	-43
156	2570	2	11	1950	120	130	1250	360	-1	-3	-13	-8.8	-9.6	-23	-28	-4.7	-34	-52
156	1960	1	9	1290	90	80	910	450	-1	-2	-11	-3.1	-1.5	-14	-18	-1.3	-24	-29
156	2620	3	13	1760	100	110	940	490	-2	-3	-15	-5.1	-8.7	-22	-29	-2.5	-31	-40
156	2050	1	9	1360	90	90	1020	400	-1	-2	-11	-4.4	-3	-16	-21	-2.1	-26	-33
156	2480	2	11	1750	100	100	950	300	-2	-3	-13	-7.6	-6.7	-19	-25	-3.8	-27	-44
166	2120	2	9	1180	90	80	950	390	-1	-2	-10	-2.5	-2.3	-17	-21	-1.4	-23	-29

166	2770	3	13	1910	110	120	1100	520	-2	-3	-14	-7.3	-9.2	-23	-28	-3.5	-38	-49
166	2160	2	12	1660	0	60	500	540	-2	-3	-13	-3	-7.4	-22	-24	-0.9	-29	-31
166	2710	2	11	1450	120	120	1340	390	-1	-3	-11	-5.9	-5.8	-21	-28	-3.4	-31	-44
166	2430	2	10	1710	100	100	1060	250	-1	-3	-11	-8	-6.5	-20	-24	-4.3	-28	-47
166	2840	3	13	1820	100	110	1010	390	-2	-3	-14	-7.2	-9.1	-24	-30	-3.7	-33	-47
167	2760	2	10	1190	130	130	1500	400	-1	-2	-11	-4.8	-3	-18	-27	-3	-29	-40
167	2670	2	11	1740	110	110	1170	350	-2	-3	-12	-8.6	-7.3	-21	-27	-4.3	-34	-50
167	2890	3	13	1800	110	120	1190	400	-2	-3	-13	-7.6	-8.4	-23	-29	-4.1	-34	-49
167	2690	2	11	1610	110	110	1180	290	-2	-3	-12	-6.4	-5.7	-20	-26	-3.8	-27	-44
167	2050	1	9	1710	0	80	840	340	-1	-2	-10	-6.9	-7.6	-22	-23	-3.2	-29	-42
167	2750	3	14	2250	90	110	850	520	-2	-3	-15	-7.8	-13	-27	-30	-3.7	-40	-51
253	2400	2	9	1310	110	110	1230	430	-1	-2	-9	0	-4	-20	-23	-2.3	-28	-37
253	2200	2	9	2060	80	110	970	310	-2	-2	-9	-9.8	-11.5	-28	-25	-4.8	-35	-54
253	2140	2	11	1910	70	80	650	510	-2	-3	-11	-5.1	-10	-26	-24	-2.1	-33	-39
253	2380	2	11	1460	90	100	930	400	-1	-2	-10	0	-6.2	-23	-25	-1.9	-25	-34
253	2550	2	10	2040	110	130	1310	370	-2	-2	-10	-10	-11.2	-27	-27	-5.2	-39	-58
253	2820	3	12	1870	120	140	1390	470	-2	-2	-11	-6.6	-9.3	-25	-28	-4	-36	-51
254	2480	2	10	1960	110	130	1270	380	-1	-2	-10	-7.6	-12.2	-29	-29	-4.4	-35	-52
254	2820	3	14	1750	100	110	900	460	-2	-3	-13	-5.3	-8.8	-25	-29	-2.7	-31	-41
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254	2510	2	10	1460	120	130	1350	510	-1	-2	-9	0	-4.2	-20	-22	-2.4	-31	-39
254	2070	1	8	1400	100	100	1120	360	-1	-2	-7	0	-4.5	-21	-20	-2.4	-25	-36
254	2790	2	12	1740	110	120	1210	400	-2	-3	-12	-7.7	-7.9	-24	-27	-4	-34	-49
205	2380	2	10	1380	100	90	1050	370	-1	-2	-9	-5.2	-5.2	-20	-24	-2.1	-23	-32
205	2430	2	10	1450	90	80	1020	430	-1	-2	-10	-6.7	-6.4	-22	-25	-2.3	-28	-36
205	2070	1	7	1310	90	80	1130	400	-1	-2	-7	-6.6	-5.3	-21	-22	-2.3	-27	-35
205	2330	2	9	1580	100	100	1170	350	-1	-2	-9	-8.2	-7.7	-23	-25	-3.3	-29	-41
205	2720	2	11	1590	110	100	1120	350	-1	-2	-11	-6.6	-7.3	-22	-27	-3	-25	-39
205	2200	1	7	0	110	90	1320	400	-1	-1	-7	-3.8	0	0	-20	-1.3	-21	-26
206	2250	2	10	1620	70	60	700	350	-2	-3	-10	-8.1	-6.6	-21	-22	-2.6	-26	-36
206	2240	1	8	1240	100	80	1160	280	-1	-2	-8	-6.2	-3.5	-18	-21	-2.6	-21	-33
206	2580	3	12	1370	80	60	670	370	-2	-3	-12	0	-4.2	-19	-24	-1	-17	-25

206	1820	0	6	1020	100	90	1250	360	0	0	-5	0	-4.4	-21	-22	-1.3	-20	-26
206	2540	2	10	1520	110	100	1220	440	-1	-2	-10	-7.9	-5.3	-19	-23	-3	-31	-41
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255	2510	2	10	1520	100	100	1110	440	-1	-2	-9	-5.3	-6.4	-22	-24	-2.1	-26	-35
255	2540	2	11	1750	100	100	990	440	-1	-2	-10	-7.1	-9.5	-26	-27	-2.7	-29	-39
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255	2210	1	8	1730	90	90	1060	360	-1	-2	-8	-10.7	-9.5	-26	-25	-3.9	-34	-46
255	2450	2	10	1200	100	90	1100	440	-1	-2	-9	-4.8	-1.7	-17	-20	-1.5	-23	-29
384	2540	2	8	1670	120	130	1430	350	-1	-1	-6	-7.6	-8.8	-27	-24	-3.8	-29	-45
384	2040	2	7	1570	90	100	1050	400	-1	-1	-5	-5.2	-6.6	-24	-18	-2.1	-25	-34
384	1870	1	6	1500	70	80	930	350	-1	-1	-4	-5.8	-5.4	-23	0	-2.1	-23	-33
384	2530	2	8	1740	100	120	1270	240	-1	-2	-6	-9.2	-8	-25	-23	-4.4	-26	-46
384	2220	1	7	1540	90	100	1130	310	-1	-1	-5	-7	-7.7	-26	-22	-3	-24	-38
384	2300	2	10	1840	80	90	830	440	-1	-2	-8	-7.1	-12.5	-32	-27	-2.5	-30	-39
159	2710	2	13	1610	120	100	1020	430	-1	-3	-15	-6.5	-6.3	-17	-27	-2.2	-24	-35
159	2560	2	12	1560	110	100	1060	430	-1	-3	-14	-6.8	-6.4	-18	-27	-2.2	-25	-35
159	2710	2	11	1400	140	120	1370	270	-1	-2	-13	-7.6	-5.7	-17	-28	-3.4	-21	-38
159	2750	2	12	1750	120	110	1220	270	-1	-3	-14	-10	-7	-17	-27	-4.2	-25	-45
159	2310	2	11	1250	100	80	960	380	-1	-3	-13	-5.7	-1.8	-12	-21	-1.5	-20	-27
159	2750	3	16	1920	90	80	560	490	-2	-4	-18	-6.5	-8.9	-19	-28	-1.6	-25	-33
170	2480	2	12	1300	120	100	1060	500	-1	-2	-14	0	-3.3	-14	-24	-0.7	-21	-25
170	2980	3	14	1690	120	110	1140	440	-2	-3	-16	-8.3	-6.7	-17	-29	-2.9	-28	-40
170	2240	2	10	1630	110	100	1070	430	-1	-2	-12	-7.1	-8.2	-20	-26	-2.3	-27	-36
170	2780	2	12	1330	120	90	1050	270	-2	-3	-14	-6.6	-4	-15	-27	0	0	0
170	2490	2	11	1260	130	110	1210	410	-1	-2	-12	0	-2.9	-14	-24	-1.3	-19	-27
170	2860	2	14	1520	110	100	1040	460	-2	-3	-16	-8.1	-5.7	-17	-28	-2.4	-28	-37
339	1430	1	0	1330	100	120	1430	310	0	-1	0	0	-2.6	-18	0	-2.2	-18	-31
339	2280	2	10	1500	80	100	980	420	-1	-2	-9	-4.2	-6.7	-24	-23	-1.4	-22	-30
339	2320	1	8	1760	110	150	1550	450	-1	-2	-7	-7.8	-9.1	-26	-23	-3.5	-33	-46
339	2530	2	11	1620	90	110	1060	510	-2	-3	-11	-5.5	-4.1	-19	-19	-1.8	-27	-34
339	2650	2	11	1770	100	120	1180	320	-2	-2	-10	-7.3	-7.6	-23	-24	-3.3	-24	-41

339	2040	2	8	1190	0	90	960	330	-1	-2	-7	0	-2.6	-19	-18	0	0	0
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256	2740	2	10	1640	110	120	1350	340	-2	-3	-11	-9.9	-6.8	-22	-26	-4	-31	-46
256	2710	2	11	1810	110	130	1330	450	-1	-3	-12	-7.9	-8.5	-23	-26	-3.4	-32	-45
256	2340	2	10	1900	90	110	1120	370	-1	-2	-10	-8.5	-9.8	-25	-25	-3.5	-30	-44
256	2410	2	10	1480	90	100	1030	390	-1	-2	-11	-4.3	-5.4	-20	-23	-1.6	-21	-30
256	2340	2	10	1890	80	100	940	380	-1	-3	-11	-7.5	-8.4	-23	-23	-2.9	-27	-40
353	2190	1	8	1610	100	130	1370	430	-1	-1	-7	-5.7	-6.5	-23	-20	-2.5	-27	-38
353	2580	2	10	1580	90	120	1150	330	-2	-2	-10	-6.7	-5.3	-21	-21	-2.8	-23	-37
353	2560	2	9	1660	100	130	1310	320	-1	-2	-9	-7.4	-7.3	-24	-24	-3.4	-25	-41
353	2680	2	11	2090	90	130	1120	410	-2	-3	-11	-10.4	-11.6	-28	-27	-4.1	-34	-50
353	2700	2	12	2480	90	130	1110	410	-2	-3	-11	-12.5	-13.1	-28	-24	-5.2	-39	-58
353	2240	1	8	1560	90	120	1300	450	-1	-2	-8	-6.8	-5.9	-22	-20	-2.5	-30	-38
354	2660	2	11	2030	110	140	1350	480	-1	-2	-10	-8.2	-10.1	-26	-24	-3.6	-35	-48
354	2130	1	8	1350	80	100	1140	390	-1	-2	-7	-5.5	-3.6	-20	-18	-1.9	-23	-32
354	1710	0	5	1170	70	90	1070	330	-1	0	-5	-4.2	-1.3	-17	0	-1.3	-18	-26
354	2470	2	10	1950	90	130	1100	330	-1	-2	-9	-7.4	-11.1	-28	-26	-3.4	-26	-43
354	2430	2	10	1390	90	110	1170	450	-1	-2	-9	-4.8	-3.2	-19	-19	-1.6	-24	-31
354	2520	2	10	1690	90	120	1210	350	-2	-2	-9	-8.7	-7	-23	-23	-3.5	-28	-43
386	2580	2	11	1640	100	130	1250	450	-2	-2	-10	-8.9	-7.7	-24	-24	-3.4	-32	-44
386	2570	2	10	1010	110	130	1390	380	-1	-2	-9	-5.1	-1.8	-18	-22	-2	-21	-31
386	2590	2	12	1400	90	110	1050	340	-2	-3	-11	-7.6	-5.2	-21	-23	-2.7	-23	-36
386	2190	1	10	1230	90	100	1040	470	-1	-2	-9	-4	-2.7	-19	0	-1	-22	-27
386	2470	2	11	1670	90	120	1170	400	-1	-2	-10	-9	-8.3	-25	-24	-3.4	-30	-43
386	2470	1	10	1110	100	120	1300	430	-1	-2	-9	-7.1	-3.5	-20	-23	-2.3	-27	-34
419	1990	1	9	1310	90	110	1080	490	-1	-1	-7	0	-5.3	-23	-20	-1.1	-24	-28
419	1970	2	10	1870	80	110	870	450	-1	-1	-8	-4.6	-10.9	-28	-22	-1.8	-24	-34
419	2060	0	8	1510	90	120	1240	400	-1	0	-7	-7.6	-7.1	-24	-21	-2.9	-28	-39
419	2070	1	7	1240	100	120	1300	320	-1	-1	-6	-5.8	-3.7	-21	-18	-2.5	-20	-33
419	2380	2	12	1750	80	120	960	430	-1	-2	-10	-6.9	-9.4	-26	-24	-2.5	-27	-38
419	2570	2	11	1750	110	140	1340	380	-1	-2	-9	-9.3	-10	-27	-26	-4	-31	-47
420	2310	2	10	1740	90	120	1090	300	-1	-2	-8	-8.5	-7.6	-24	-21	-3.6	-25	-42

420	2180	2	10	1720	80	110	970	430	-1	-2	-9	-7.5	-7.8	-24	-20	-2.7	-28	-39
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420	2510	2	11	1300	100	120	1250	460	-1	-2	-9	-6	-3.8	-20	-21	-2.1	-26	-34
420	2390	1	9	1150	110	130	1330	360	-1	-2	-7	-5	-3.8	-21	-22	-2.1	-20	-32
420	2470	2	11	1430	90	120	1180	440	-1	-2	-9	-7.2	-5.7	-23	-22	-2.5	-27	-37
111	2800	4	15	2260	70	80	510	440	-2	-4	-18	-7.1	-14.1	-26	-34	-2.8	-28	-40
111	2590	2	10	1350	110	90	1200	320	-1	-3	-13	-6.4	-4.2	-15	-27	-2.9	-23	-35
111	2650	2	12	1590	110	100	1140	510	-1	-3	-15	-6.3	-7.5	-19	-30	-2.4	-31	-37
111	2680	3	12	1570	90	80	950	490	-2	-3	-15	-6.1	-6.8	-18	-30	-2.1	-28	-34
111	2450	2	10	1350	90	80	1010	330	-1	-3	-13	-6.8	-5.4	-17	-28	-2.6	-23	-34
111	2600	2	12	1580	100	90	990	440	-1	-3	-15	-6.6	-7.4	-19	-30	-2.5	-28	-36
112	2310	2	10	1620	90	80	950	370	-1	-3	-13	-8	-8.6	-21	-29	-3	-28	-39
112	2310	2	10	1330	100	80	1030	450	-1	-3	-13	-4	-6.5	-19	-29	-1.4	-24	-29
112	2670	3	13	1750	90	90	860	380	-2	-3	-15	-6	-10.7	-23	-34	-2.6	-24	-36
112	2600	2	10	1580	100	100	1160	370	-1	-3	-13	-7.3	-6.2	-17	-28	-3.2	-27	-39
112	2540	2	11	1580	100	90	1060	380	-1	-3	-14	-6.8	-7.4	-19	-29	-2.8	-26	-37
112	2630	2	10	1430	110	100	1260	420	-1	-3	-13	-5.8	-5.2	-16	-28	-2.6	-26	-36
123	1670	0	5	1060	90	0	1090	370	0	0	-8	0	-1.6	-13	-19	-1.1	-19	-24
123	2550	2	11	1070	100	80	1050	460	-1	-3	-14	0	-2.2	-14	-27	-0.9	-21	-24
123	2290	2	9	1060	90	0	980	300	-1	-3	-12	-4.4	-1.4	-13	-24	-1.6	0	-25
123	2540	2	10	1750	100	100	1140	320	-1	-3	-13	-7.8	-8.9	-21	-30	-3.7	-27	-42
123	2760	3	11	1310	120	110	1280	470	-1	-3	-14	-4.5	-5.2	-17	-30	-2	-26	-32
123	2280	2	10	1480	70	60	760	340	-1	-3	-13	-6.2	-6	-18	-26	-2.1	-22	-31
124	1890	1	7	1070	80	60	920	440	-1	-2	-11	0	-2.2	-14	-22	-0.8	-21	-23
124	2220	2	9	1620	80	80	950	300	-1	-3	-12	-7.5	-6.6	-18	-25	-3.1	-24	-37
124	2800	3	13	1490	90	80	850	460	-2	-4	-16	-4.2	-5.9	-18	-30	-1.5	-23	-29
124	2820	3	13	1910	100	100	1110	490	-2	-4	-16	-9.3	-10.8	-23	-33	-3.7	-36	-46
124	2200	2	10	1530	70	60	690	350	-1	-3	-13	-5	-7	-19	-27	-1.8	-20	-29
124	2740	2	10	1160	120	100	1430	470	-1	-3	-13	-7.4	-3.6	-16	-29	-2.8	-31	-37
136	2700	3	12	1990	110	120	1100	570	-2	-3	-13	-6.9	-8.5	-21	-25	-2.7	-36	-43
136	2830	2	10	1670	120	120	1310	380	-2	-3	-12	-8.3	-5.2	-17	-25	-3.7	-30	-44
136	2620	3	12	1910	90	90	790	530	-2	-3	-14	-7.4	-8.6	-21	-26	-2.3	-33	-39

136	2210	2	9	1680	90	90	950	380	-1	-2	-10	-7.2	-8.2	-22	-25	-2.7	-28	-38
136	2390	2	8	1480	110	100	1200	380	-1	-2	-10	-7.4	-5.1	-18	-23	-2.9	-28	-38
136	2540	2	10	1720	110	110	1130	430	-1	-2	-11	-5.9	-6.9	-20	-25	-2.6	-28	-38
403	2520	2	9	2060	90	120	1050	340	-2	-2	-7	-8.3	-9.8	-26	-21	-3.8	-29	-46
403	2390	2	8	1950	90	130	1200	500	-2	-2	-7	-8	-8	-24	-18	-3.3	-35	-45
403	2200	2	7	1640	100	120	1250	530	-1	-2	-5	-5.4	-4.3	-20	0	-2.1	-31	-37
403	2370	2	8	1840	90	120	1120	390	-2	-2	-6	-8.3	-7.5	-24	-19	-3.5	-31	-44
403	1540	1	0	1510	100	120	1340	450	-1	-1	0	-6.2	-5.2	-22	0	-2.6	-30	-38
403	2350	2	7	1830	110	140	1370	400	-1	-2	-5	-8.2	-9	-27	-21	-3.8	-33	-46
404	1310	0	4	1450	100	120	1360	370	-1	0	-2	-6	-5	-23	0	-2.7	-27	-37
404	2240	2	8	1860	90	120	1060	400	-1	-2	-6	-6	-10	-28	-22	-2.7	-28	-39
404	2600	2	9	2030	110	140	1250	380	-2	-2	-7	-7.4	-11.1	-29	-24	-3.8	-30	-47
404	2390	2	0	1730	120	150	1540	390	-1	-1	0	-7.3	-6.8	-24	-19	-3.7	-31	-45
404	2260	2	7	1840	90	120	1130	330	-2	-2	-6	-9.2	-8.4	-26	-20	-3.9	-30	-45
404	2560	2	8	1960	100	140	1260	350	-2	-2	-7	-9	-11.5	-30	-26	-4.2	-32	-49
307	2750	2	11	1460	110	120	1170	370	-2	-2	-10	-5.2	-4.6	-21	-24	-2.6	-25	-36
307	2770	2	10	1690	110	120	1210	310	-2	-3	-10	-7.8	-4.9	-20	-22	-3.9	-28	-44
307	2170	1	7	1500	100	110	1210	380	-1	-1	-7	-4.9	-2.2	-17	0	-2.5	-26	-36
307	2490	2	10	1610	100	110	1020	360	-1	-2	-9	0	-4.2	-19	-20	-2.2	-22	-34
307	2830	2	10	1980	130	160	1590	450	-2	-2	-9	-9.9	-7.3	-22	-23	-5	-40	-56
307	1650	1	0	1280	110	110	1270	340	-1	-1	0	0	-2.9	-19	-18	-2.1	-22	-31
308	2070	2	8	1760	90	110	1050	380	-1	-1	-7	-4.5	-5.8	-21	-17	-2.5	-25	-37
308	2160	1	7	1420	100	110	1280	480	-1	-2	-7	-5.7	-2.1	-17	0	-2.4	-31	-37
308	2810	2	11	2150	110	140	1300	450	-2	-3	-11	-9.6	-9.9	-25	-25	-4.6	-39	-54
308	2410	2	10	1940	80	100	800	300	-2	-2	-10	-6.2	-8.4	-24	-22	-3.1	-24	-40
308	2010	1	7	1810	90	110	1080	420	-1	-1	-7	-5.1	-6.3	-21	0	-2.6	-28	-38
308	2180	2	8	1240	90	100	1020	430	-1	-2	-8	0	-1.7	-17	-17	-1.1	-22	-26
388	2220	1	8	1560	90	110	1110	370	-1	-2	-6	-5.6	-4.8	-22	-18	-2.6	-26	-37
388	2510	2	8	1730	120	140	1400	380	-1	-2	-7	-5.9	-6.4	-23	-20	-3.5	-29	-43
388	2840	3	12	2300	110	140	1140	450	-2	-3	-10	-8.9	-12.7	-30	-27	-4.4	-37	-53
388	2250	2	8	2010	100	130	1210	510	-1	-1	-7	-6.3	-8.9	-25	-19	-3.1	-35	-45
388	2160	2	9	2120	80	110	870	410	-1	-2	-7	-5.3	-9.5	-26	-18	-2.8	-28	-40

388	2330	2	11	2230	70	100	750	450	-2	-2	-9	-8.5	-11.5	-28	-22	-3.4	-35	-47
395	1950	1	8	1910	70	100	810	460	-1	-2	-7	-5.9	-7.4	-24	-16	-2.3	-31	-38
395	2390	2	9	1650	100	130	1200	450	-1	-2	-7	-4.4	-4.7	-21	-18	-2.4	-28	-37
395	2300	2	9	2080	90	120	1040	380	-1	-2	-7	-7.2	-9	-25	-19	-3.6	-31	-45
395	2510	2	8	1540	110	130	1250	270	-2	-2	-7	-6.5	-5.5	-23	-21	-3.5	-25	-40
395	2220	2	8	2010	90	120	1040	410	-1	-2	-7	-8.1	-8.6	-25	-18	-3.6	-33	-46
395	2360	2	9	2040	90	130	1110	480	-2	-2	-8	-8	-9.2	-26	-20	-3.5	-37	-47
347	2940	3	14	1970	100	140	1130	490	-2	-3	-13	-8.1	-10.2	-26	-28	-4	-37	-51
347	2410	1	11	1700	90	110	1050	360	-2	-2	-10	-8.9	-7.9	-24	-23	-4.1	-33	-48
347	2760	2	13	2110	100	130	1060	410	-2	-2	-12	-8.2	-11.9	-27	-27	-4.3	-34	-52
347	2110	1	9	1460	90	110	1110	380	-1	-1	-7	-5.4	-4.6	-20	-18	-2.8	-27	-39
347	2360	2	11	1770	90	120	1130	450	-1	-2	-9	-6.7	-6.3	-20	-19	-3.4	-33	-45
347	2400	1	9	1290	110	120	1280	190	-1	-1	-7	-4.8	-3.2	-18	-20	-3.4	-18	-38
348	2770	2	12	1850	110	140	1230	350	-2	-2	-11	-8.3	-10.8	-27	-29	-4.5	-33	-51
348	2130	2	11	1680	70	90	760	500	-1	-2	-10	-5.1	-5.9	-20	-18	-2	-30	-37
348	2220	1	10	1410	90	110	1010	440	-1	-2	-9	-4.4	-6.2	-23	-22	-2.1	-28	-36
348	2100	1	9	1480	80	100	970	350	-1	-2	-8	-5.5	-4.8	-20	-18	-2.7	-25	-38
348	2790	2	13	1740	100	120	1130	410	-2	-3	-12	-8.9	-8.6	-24	-27	-4.2	-35	-50
348	2590	2	13	1690	90	120	980	400	-1	-2	-11	-4.5	-7.4	-23	-24	-2.7	-26	-39
409	2300	2	9	1770	100	140	1280	330	-1	-1	-7	-5.8	-8.8	-26	-22	-3.8	-28	-46
409	2250	1	10	1430	80	110	1050	450	-1	-2	-8	-4.7	-3.7	-19	0	-2.3	-28	-37
409	2260	2	11	1270	80	100	830	420	-1	-2	-9	0	-3.8	-21	-20	-1.1	-21	-28
409	2110	1	9	1290	0	100	950	280	-1	-1	-7	-4.2	-4.2	-21	-19	-2.4	-20	-33
409	2290	2	10	1890	90	130	1070	390	-1	-2	-8	-7	-9.8	-26	-22	-3.7	-32	-47
409	2610	2	11	1950	110	150	1310	340	-1	-2	-8	-6.5	-9.9	-26	-24	-4.4	-30	-50
410	2510	2	10	1690	110	140	1300	410	-1	-2	-8	-7.2	-8.7	-26	-24	-3.9	-33	-48
410	2170	0	9	1180	90	110	1160	430	-1	0	-7	0	-2.3	-19	-17	-1.9	-26	-33
410	2220	2	11	1700	80	110	950	500	-1	-2	-9	-4.9	-9	-26	-23	-2.4	-32	-40
410	2160	0	7	1060	110	130	1420	390	-1	0	-5	-3.1	-0.6	-17	0	-2.2	-24	-33
410	2650	2	13	2400	80	130	960	380	-2	-3	-11	-11.4	-14.7	-31	-27	-5.5	-40	-61
410	2340	1	10	1320	90	110	1110	490	-1	-2	-8	-4	-4.2	-21	-20	-1.9	-29	-35
304	2360	2	9	1100	110	120	1350	380	-1	-2	-10	-4.9	-3.6	-17	-24	-2.3	-22	-34

304	2800	2	12	1270	120	130	1400	370	-1	-3	-12	-6.7	-5.7	-19	-29	-3.2	-25	-40
304	2640	3	13	1490	90	100	870	370	-2	-3	-14	-5.5	-9	-23	-31	-2.3	-22	-35
304	2640	2	14	1500	90	100	930	550	-2	-3	-14	-6	-9	-23	-30	-1.9	-30	-36
304	2640	2	12	1270	110	120	1240	450	-1	-2	-12	-4.4	-3.8	-16	-24	-2.1	-23	-33
304	2430	1	9	1180	120	130	1510	340	-1	-2	-9	-7.9	-4.3	-17	-25	-3.6	-27	-42
318	2220	2	10	0	90	90	1010	400	-1	-2	-10	0	0	0	-22	-1.2	-19	-25
318	2860	3	15	1650	90	100	890	480	-2	-3	-15	-7.3	-10.3	-24	-32	-2.7	-29	-40
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318	2500	2	11	1470	110	130	1340	510	-1	-2	-11	-7.5	-7.7	-21	-27	-3	-33	-43
318	1830	2	10	1890	0	80	560	350	-1	-2	-10	-6.8	-12	-26	-25	-2.6	-24	-38
318	2500	2	10	1230	110	120	1350	430	-1	-2	-11	-7.1	-5.3	-19	-26	-2.9	-28	-39
401	2310	2	10	0	90	100	1140	380	-1	-2	-9	-3.6	0	0	-23	-1.4	-18	-26
401	2450	2	10	1490	90	110	1110	310	-2	-2	-10	-8.9	-7.7	-22	-25	-3.7	-26	-43
401	2440	2	13	1940	0	90	660	310	-2	-3	-12	-9.6	-11.5	-26	-27	-3.8	-27	-45
401	2550	2	11	1230	100	120	1210	470	-2	-2	-11	-5.8	-6.2	-22	-27	-2.2	-27	-35
401	2540	2	13	2030	80	120	920	410	-2	-3	-12	-9.5	-14	-29	-30	-4	-32	-49
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402	2520	2	12	1070	80	90	940	510	-2	-3	-12	0	-2.6	-17	-23	-0.8	-22	-26
402	2590	3	14	1750	70	100	740	450	-2	-3	-13	-7	-10.6	-26	-28	-2.5	-27	-39
402	2510	2	12	2080	80	120	1000	490	-2	-3	-12	-10	-13.8	-29	-29	-4	-37	-51
402	2650	2	10	1340	120	140	1430	300	-1	-2	-9	-7	-6.4	-21	-27	-3.7	-24	-42
402	2550	2	12	1590	0	100	880	370	-2	-3	-12	-8.3	-8.4	-23	-26	-3.2	-26	-41
402	1550	1	0	1130	100	120	1360	400	-1	-2	0	-5.4	-4.2	-19	-23	-2.4	-24	-35
139	2670	3	13	1540	100	90	900	370	-1	-3	-16	-5.6	-6.4	-16	-28	-2.1	-19	-31
139	2090	1	10	1080	0	0	840	520	-1	-3	-13	-4.1	-0.8	-10	-20	-0.3	-21	-21
139	3120	3	14	1570	110	110	1190	390	-2	-4	-17	-10.3	-7.3	-17	-32	-3.8	-29	-44
139	2590	2	11	1260	110	100	1190	360	-1	-3	-14	-5.3	-2.1	-11	-24	-2	-19	-30
139	2550	2	13	1670	100	100	930	510	-1	-3	-16	-6.4	-9.7	-21	-31	-1.9	-27	-35
139	2470	2	11	1570	100	100	1130	400	-1	-3	-14	-7.7	-6.4	-16	-26	-2.8	-26	-38
140	2770	3	13	1640	110	110	1040	470	-1	-3	-16	-6.8	-8.2	-19	-30	-2.4	-27	-36
140	2640	2	11	1230	110	100	1080	310	-1	-3	-14	-6	-3.7	-14	-27	-2.2	-18	-30
140	2580	2	11	1590	100	100	1140	350	-1	-3	-14	-9	-6.5	-16	-27	-3.4	-26	-41

140	2740	2	12	1090	120	110	1240	490	-1	-3	-15	-4.6	-1.8	-12	-26	-1.3	-22	-28
140	2310	1	8	0	120	110	1430	350	-1	-2	-11	-5.4	0	0	-24	-1.9	-19	-28
140	2660	2	13	1640	90	80	800	410	-2	-4	-16	-8.3	-6.5	-16	-27	-2.6	-25	-36
151	2990	2	12	1330	130	130	1410	310	-1	-3	-15	-8.5	-5.3	-16	-31	-3.6	-23	-40
151	2440	2	12	1180	100	90	940	530	-1	-3	-15	-2.3	-3.1	-13	-25	-0.1	-19	-21
151	2440	2	12	1660	90	100	900	500	-1	-3	-15	-6.9	-9.7	-21	-30	-2	-28	-35
151	2200	2	11	1410	80	80	820	390	-1	-3	-14	-6.5	-6.6	-18	-26	-1.7	-21	-30
151	2550	2	11	1200	120	110	1240	470	-1	-2	-13	-4.2	-2.1	-12	-24	-1.4	-21	-27
151	2540	2	12	1040	100	80	940	530	-1	-3	-15	-3.8	-1.2	-11	-24	-0.3	-21	-21
152	2350	2	12	1830	80	90	740	350	-1	-3	-15	-7.6	-9.4	-19	-27	-2.6	-22	-36
152	2590	2	11	1390	110	100	1150	350	-1	-3	-14	-7.9	-6.1	-17	-29	-2.9	-23	-36
152	2830	2	12	1040	120	110	1330	500	-1	-3	-15	-5.8	-1.8	-12	-27	-1.6	-25	-30
152	2260	1	9	1090	90	80	1000	280	-1	-2	-12	-6.2	-3.2	-14	-25	0	0	0
152	2540	2	12	1500	100	90	910	410	-1	-3	-15	-5.5	-7.1	-18	-29	-1.8	-21	-30
152	2450	2	10	1650	110	110	1110	260	-1	-3	-13	-8.4	-8.5	-19	-29	-3.5	-21	-40
113	2200	2	9	1290	90	80	990	510	-1	-2	-11	0	-2.9	-16	-23	-0.4	-22	-23
113	2510	2	9	1340	110	100	1190	350	-1	-2	-11	-4.7	-2.4	-14	-24	-1.8	-19	-29
113	2580	2	10	1820	110	110	1280	460	-1	-3	-12	-8.9	-8.1	-21	-28	-3.2	-33	-43
113	1550	1	0	1330	90	80	1050	420	0	-2	0	0	-2.4	-15	-20	-0.8	-20	-24
113	2150	2	9	1890	80	80	900	490	-1	-2	-12	-6.8	-7.7	-20	-23	-2	-29	-36
113	2110	2	8	1610	80	80	880	370	-1	-2	-11	-5.6	-5.6	-18	-23	-1.7	-22	-30
114	2380	2	9	1260	100	90	1150	450	-1	-2	-11	-3.8	-0.7	-12	-21	-1	-21	-25
114	1900	1	8	1790	80	80	960	480	-1	-2	-10	-6.2	-8.3	-21	-23	-1.8	-29	-34
114	2290	2	8	1480	90	80	1100	430	-1	-3	-11	-7.5	-3.8	-16	-23	-2.2	-28	-34
114	1890	1	6	1110	90	70	1010	350	0	-2	-8	-2	-1.4	-14	-20	0	0	0
114	2320	2	8	1730	110	110	1350	440	-1	-2	-10	-7.7	-7.8	-21	-26	-3	-31	-41
114	2740	3	11	1660	110	100	1090	380	-2	-3	-13	-6.8	-6.7	-20	-29	-2.5	-25	-36
173	2540	2	10	1870	100	110	1140	380	-1	-3	-11	-8.9	-8.5	-22	-27	-3.4	-30	-43
173	2390	2	8	1760	110	110	1230	380	-1	-2	-10	-6.7	-6.9	-20	-24	-2.8	-26	-38
173	3040	3	13	2290	110	120	1140	510	-2	-4	-15	-11.1	-12.9	-26	-33	-4.2	-40	-52
173	2420	2	10	1840	90	100	1000	500	-1	-3	-12	-6.7	-8	-21	-25	-2.1	-30	-37
173	2620	2	10	1630	100	100	1080	290	-2	-3	-12	-7.9	-5.8	-19	-26	-3.1	-23	-37

173	2480	2	9	1700	100	100	1140	370	-1	-2	-11	-6.6	-7.3	-21	-26	-2.6	-25	-36
174	2230	2	9	1430	100	90	990	440	-1	-2	-10	0	-4.8	-19	-24	-0.6	-19	-24
174	2610	3	11	1520	80	70	740	300	-2	-3	-13	-5.3	-5	-19	-26	-1.6	-17	-27
174	2280	2	8	1260	100	100	1240	450	-1	-2	-9	-4.6	-2.2	-16	-22	-1.3	-24	-28
174	2840	3	13	1890	100	110	1040	590	-2	-3	-14	-7.4	-8.2	-21	-28	-2.2	-35	-39
174	2930	2	10	1380	120	120	1370	400	-2	-3	-12	-6.5	-3.2	-17	-27	-2.5	-25	-35
174	3020	3	13	1700	100	100	1010	440	-2	-3	-15	-6.5	-6.7	-20	-30	-2.2	-26	-35
261	2380	2	11	1870	80	100	750	360	-2	-3	-11	-8.4	-10	-23	-25	-3.2	-31	-44
261	2340	2	8	1270	110	120	1230	360	-1	-2	-8	-5.1	-3.6	-17	-21	-2.4	-25	-36
261	2600	2	10	1440	110	130	1250	460	-2	-2	-10	-6.7	-4.5	-17	-23	-2.7	-32	-41
261	2410	2	10	1560	90	100	930	350	-2	-3	-10	-7.3	-6.2	-19	-23	-2.9	-28	-40
261	2590	2	9	1170	120	120	1290	360	-1	-2	-9	-4.7	-1.6	-14	-21	-2.3	-24	-35
261	2770	2	10	1880	110	140	1320	360	-2	-3	-11	-12.6	-9.1	-22	-26	-5.4	-40	-58
397	2320	2	8	1380	90	120	1080	350	-2	-2	-7	-5.8	-4.4	-19	-19	-2.5	-25	-37
397	2480	2	9	1510	100	130	1140	320	-2	-2	-7	-5.3	-7.2	-23	-24	-2.8	-24	-39
397	2520	2	8	1590	100	140	1280	330	-2	-2	-7	-8.5	-6.6	-22	-22	-3.9	-31	-47
397	1990	2	0	1150	80	100	970	410	-1	-1	0	0	-1.9	-17	-15	-0.7	-20	-25
397	2250	2	9	2170	80	120	960	420	-2	-2	-8	-10.9	-12.1	-27	-22	-4.4	-39	-54
397	2160	2	9	1990	80	120	890	480	-1	-2	-8	-5.9	-10.5	-25	-21	-2.5	-32	-42
315	2030	0	6	1230	100	110	1160	360	-1	0	-6	-4.4	-1.9	-15	0	-2	-23	-33
315	2500	2	10	1970	90	120	1030	410	-2	-3	-10	-9.3	-9.8	-23	-24	-3.9	-36	-50
315	3000	3	13	2120	110	140	1160	360	-2	-3	-12	-10.3	-12.1	-26	-29	-4.9	-36	-56
315	2530	3	11	2100	90	120	910	420	-2	-3	-11	-8.2	-12.9	-27	-27	-3.6	-34	-49
315	2780	3	12	1810	100	130	1090	410	-2	-3	-11	-7.8	-10.1	-24	-28	-3.5	-32	-47
315	2340	2	10	1950	90	120	1000	470	-2	-2	-9	-7.4	-10.3	-24	-23	-3.1	-35	-46
413	2440	3	11	2120	70	110	700	380	-2	-3	-10	-9	-12.4	-28	-24	-3.6	-33	-48
413	2460	1	8	1880	110	160	1320	260	-1	-1	-6	-7.1	-11	-27	-25	-4.3	-27	-49
413	2600	2	9	1570	110	140	1320	320	-2	-2	-7	-7.8	-7.4	-23	-24	-3.8	-29	-46
413	2270	2	8	1780	90	130	1190	430	-2	-2	-6	-8.8	-7.6	-22	-19	-3.7	-36	-48
413	2500	2	8	1300	110	140	1410	450	-2	-2	-7	-6.4	-3.8	-19	-20	-2.8	-32	-41
413	1870	2	0	1560	80	110	880	450	-1	-2	0	-3.5	-6.8	-22	0	-1.4	-26	-32
418	2310	2	8	1520	100	140	1300	470	-1	-2	-6	-5	-8	-24	-22	-2.9	-33	-43

418	2570	2	10	1730	90	140	1220	390	-2	-2	-8	-8	-9.5	-25	-24	-4.1	-35	-50
418	1780	0	6	0	80	100	1080	420	-1	0	-4	0	0	0	0	0	-22	-26
418	2270	2	9	1560	80	120	1040	430	-1	-2	-7	-4.4	-8	-24	-21	-2.4	-29	-39
418	2930	3	12	1750	90	140	1220	520	-3	-3	-10	-9.6	-10.5	-27	-28	-4.2	-42	-54
418	2470	2	8	1390	100	140	1410	510	-2	-2	-7	-6.6	-6	-22	-21	-3.1	-37	-46
455	2340	2	0	1210	90	130	1200	530	-1	-2	0	-2.8	-3.9	-20	-18	-1.4	-29	-34
455	2400	2	7	1160	100	140	1350	310	-1	-2	-5	-4.4	-4	-20	-20	-2.8	-24	-38
455	2660	3	10	1540	100	140	1210	490	-2	-2	-8	-5	-8.5	-25	-24	-2.7	-32	-42
455	2280	2	8	1260	80	120	1160	380	-2	-2	-5	-4.8	-5.6	-22	-20	-2.5	-27	-38
455	2370	2	9	1590	80	120	1010	380	-2	-2	-7	-6.2	-7.9	-24	-21	-3	-29	-42
455	1970	1	7	1490	70	120	1040	360	-1	-2	-4	-6	-7.8	-25	-19	-2.9	-29	-41
456	2110	2	7	1430	70	120	1030	390	-1	-2	-5	-5.4	-6.9	-23	-19	-2.6	-28	-39
456	2400	2	10	1700	80	130	1020	500	-2	-2	-7	-5	-9.4	-26	-22	-2.5	-33	-42
456	2580	2	9	0	100	130	1280	370	-2	-2	-6	-2.5	0	0	-19	-1.8	-22	-32
456	2410	2	9	1840	80	140	1160	400	-2	-2	-7	-9.9	-13	-31	-26	-4.5	-39	-55
456	2580	2	10	1910	90	140	1170	420	-2	-2	-7	-9	-11.9	-28	-25	-4.4	-38	-54
456	2230	2	8	1540	80	130	1130	420	-2	-2	-5	-6.1	-8.6	-25	-21	-3	-32	-43
460	2360	2	7	1160	90	120	1230	300	-2	-2	-5	-5.2	-2.8	-19	0	-2.9	-24	-38
460	2500	3	10	1760	90	140	1140	520	-2	-2	-7	-5.4	-11.2	-28	-25	-2.8	-35	-45
460	2220	2	0	1060	90	130	1260	470	-1	-1	0	0	-2.7	-19	0	-1.3	-25	-31
460	2410	2	10	1790	80	130	1080	460	-2	-2	-7	-6.4	-10.2	-27	-22	-3.2	-34	-46
460	2110	2	8	1690	80	130	1120	430	-1	-1	-5	-5.2	-10.7	-28	-22	-2.9	-32	-43
460	2210	2	6	1210	90	130	1260	290	-1	-1	-4	-4.9	-4.8	-22	-19	-2.9	-24	-38
175	2520	2	11	1270	100	100	1060	430	-1	-2	-12	-4.6	-6.1	-19	-27	-2	-24	-32
175	2590	2	12	1890	100	110	1070	520	-2	-3	-13	-10.3	-11.3	-24	-29	-4	-39	-50
175	2890	3	13	1640	110	110	1070	350	-2	-3	-14	-8.3	-9	-22	-30	-3.8	-28	-44
175	3010	3	14	1780	100	110	940	350	-2	-3	-15	-9.4	-10.4	-23	-32	-4.1	-29	-46
175	2430	2	9	0	110	100	1240	360	-1	-2	-10	-3.2	0	0	-24	-1.5	-18	-26
175	2790	3	13	1440	110	110	1010	360	-2	-3	-13	-6.3	-7.1	-20	-29	-2.9	-24	-37
209	2250	2	10	1210	80	70	750	360	-1	-3	-11	-6.1	-4.9	-18	-23	-1.9	-22	-30
209	2440	1	9	0	110	100	1260	330	-1	-2	-9	-5.9	0	0	-23	-2.5	-22	-32
209	2400	2	11	1350	100	100	1050	540	-1	-2	-11	-5.5	-7.6	-22	-27	-1.9	-30	-35

209	2620	2	12	1420	100	110	1090	430	-2	-3	-12	-7.9	-7.3	-21	-27	-3	-30	-40
209	2630	2	12	1660	90	100	1000	400	-2	-3	-12	-9.5	-8.2	-21	-26	-3.7	-32	-45
209	2150	1	9	0	90	80	950	270	-1	-2	-9	-5.2	0	0	-24	-2	-18	-28
210	2160	1	8	0	110	110	1330	460	-1	-1	-8	-3.4	0	0	-20	-1.3	-23	-27
210	2610	2	12	1300	90	100	940	480	-2	-3	-13	-5.8	-5.6	-19	-26	-1.9	-27	-33
210	2660	2	12	1580	100	110	1020	440	-2	-3	-12	-7.1	-7.3	-20	-26	-2.9	-29	-40
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210	2570	3	13	1480	90	90	780	500	-1	-3	-13	-3.5	-6.4	-19	-25	-1.2	-23	-29
210	2410	2	10	1100	100	100	1110	500	-1	-2	-11	-4.5	-3.7	-17	-24	-1.5	-26	-30
217	2390	2	10	1400	100	110	1120	430	-1	-2	-10	-6.1	-6.3	-19	-24	-2.6	-27	-37
217	2620	2	11	1310	110	110	1100	350	-1	-2	-11	-5	-6.2	-20	-27	-2.5	-22	-34
217	2360	2	9	1600	100	120	1180	230	-1	-2	-9	-8.8	-9.2	-23	-27	-4.3	-25	-45
217	2510	3	13	1620	0	80	640	370	-2	-3	-13	-6.4	-9.4	-23	-28	-2.4	-24	-35
217	2340	2	12	1810	0	90	670	290	-1	-3	-12	-7.9	-11.6	-25	-28	-3.3	-24	-40
217	2860	2	12	1420	120	130	1330	360	-2	-3	-12	-8.4	-7.8	-22	-30	-3.9	-29	-44
218	2730	3	12	2080	110	100	960	370	-2	-3	-14	-9.2	-11.1	-24	-29	-3.8	-30	-46
218	2520	2	10	1390	110	100	1170	450	-1	-2	-11	-5.6	-2.9	-15	-23	-2	-25	-33
218	2060	1	8	1350	100	80	1020	420	-1	-2	-9	-4.7	-3.2	-16	-20	-1.4	-22	-28
218	2350	2	10	1280	100	80	950	530	-1	-2	-12	0	-3.1	-16	-23	-0.2	-21	-23
218	2850	3	12	1770	120	110	1160	430	-2	-3	-13	-7.7	-7.6	-20	-28	-3.1	-29	-42
218	2520	2	10	1710	110	100	1160	420	-1	-2	-11	-7.3	-6.5	-19	-25	-2.9	-28	-40
329	2430	2	9	1800	110	110	1160	460	-1	-2	-9	-6.5	-7.9	-22	-23	-2.7	-29	-40
329	2320	2	9	1460	100	90	1070	440	-1	-2	-9	-6.7	-4.6	-19	-21	-2.2	-27	-34
329	2450	2	9	1890	110	120	1350	460	-1	-2	-9	-10	-7.9	-22	-23	-4	-36	-49
329	2990	2	11	1490	130	120	1340	370	-2	-3	-11	-8.5	-5.8	-21	-28	-3.5	-28	-42
329	2590	3	12	2170	90	100	770	390	-2	-3	-12	-8.5	-13.7	-30	-30	-3.3	-29	-44
329	2460	2	9	1780	110	120	1280	400	-1	-2	-9	-9	-7.5	-22	-23	-3.7	-31	-45
330	2690	2	9	1890	120	130	1340	280	-1	-2	-9	-9.2	-8.9	-23	-26	-4.5	-27	-48
330	2420	2	10	1710	90	90	940	330	-2	-3	-10	-7.9	-8.1	-23	-25	-3	-25	-39
330	2520	2	10	2030	110	120	1240	470	-1	-2	-10	-9	-8.9	-22	-23	-3.7	-34	-47
330	2590	2	9	1330	120	110	1310	350	-2	-2	-9	-8	-2.1	-16	-21	-3.1	-26	-38
330	2830	2	11	1720	120	120	1270	410	-2	-3	-11	-8	-7.1	-22	-26	-3.4	-29	-43

330	2130	2	9	1200	70	0	540	250	-2	-2	-10	-3.9	-3	-18	-21	0	0	0
358	1890	2	0	0	130	110	1460	320	-1	-1	0	0	0	0	-18	0	0	0
358	2970	3	12	1920	130	150	1410	490	-2	-2	-11	-7.8	-10.3	-26	-29	-3.5	-33	-47
358	2090	2	8	1800	90	90	880	340	-1	-2	-8	-6.2	-7.9	-23	-21	-2.4	-22	-35
358	2210	2	9	1920	90	100	920	450	-1	-2	-9	-8.3	-9.2	-24	-22	-2.8	-31	-41
358	2780	3	11	1730	110	110	1090	400	-2	-3	-11	-6.7	-9.4	-26	-29	-2.7	-26	-39
358	1440	1	0	1570	100	100	1220	340	-1	-1	0	-7.2	-5.8	-21	-19	-2.9	-25	-38
463	2150	2	8	1600	90	100	980	410	-1	-2	-7	-5.2	-5.4	-22	-18	-1.7	-24	-33
463	2270	2	8	1750	110	120	1250	420	-1	-2	-6	-7.1	-7.5	-24	-20	-2.8	-29	-42
463	2160	1	6	1440	110	120	1440	310	-1	-1	-4	-8	-3.6	-20	0	-3.3	-26	-41
463	1450	1	0	1320	110	120	1350	400	-1	-1	0	-4.7	-2.7	-19	0	-1.8	-24	-33
463	1980	1	7	1930	90	110	1010	390	-1	-1	-6	-7.8	-9.3	-26	-19	-2.9	-29	-42
463	2070	0	6	1530	110	130	1430	340	-1	0	-4	-7.7	-5.2	-22	-18	-3.2	-28	-42
464	2140	2	8	1800	90	100	900	340	-1	-2	-7	-6.1	-6.4	-22	-17	-2.3	-22	-36
464	1770	0	6	1480	90	100	1060	430	-1	0	-4	-3.9	-4.6	-22	0	-1.2	-23	-30
464	2240	1	7	1610	110	120	1290	440	-1	-2	-6	-7.8	-4.8	-21	-17	-2.8	-31	-41
464	1860	1	6	1170	80	80	950	350	-1	-1	-5	-4.3	-2.1	-20	0	-1	-19	-26
464	2390	1	8	1650	110	130	1370	360	-1	-2	-6	-8.9	-5.7	-22	-20	-3.6	-30	-45
464	2150	1	7	1600	110	120	1280	490	-1	-1	-6	-6.8	-5.2	-22	-18	-2.3	-31	-39
101	2430	2	12	1480	100	60	730	330	-1	-3	-15	-5.6	-4.2	-15	-26	-1.6	-20	-30
101	2620	2	11	1350	120	90	1160	250	-1	-3	-13	-8.1	-2.4	-13	-26	-3.1	-22	-37
101	2570	2	10	0	140	90	1300	420	-1	-2	-13	0	0	0	-24	0	0	0
101	2650	2	13	2110	100	90	850	430	-2	-3	-16	-9.8	-10.6	-22	-30	-3.4	-33	-47
101	2970	3	14	1660	120	100	1090	360	-2	-3	-16	-8.1	-5.6	-17	-30	-3.1	-26	-41
101	2320	2	11	1790	110	90	960	440	-1	-3	-14	-7	-7.8	-19	-27	-2.3	-29	-38
102	2790	2	12	1590	130	100	1190	330	-1	-3	-15	-6.9	-5.3	-16	-29	-2.9	-24	-39
102	2820	2	13	1920	120	100	1040	380	-2	-3	-16	-9.8	-8.6	-20	-30	-3.7	-31	-47
102	2240	2	10	1390	100	70	860	320	-1	-2	-13	-4.3	-3.8	-15	-24	0	0	0
102	2560	2	12	2180	100	90	900	320	-2	-3	-15	-11.3	-11	-22	-29	-4.3	-32	-50
102	2460	2	11	1510	120	90	1170	490	-1	-3	-14	-7.7	-3.8	-15	-24	-2.3	-32	-39
102	3000	2	13	1420	140	110	1350	380	-2	-3	-15	-9.1	-4.5	-16	-31	-3.4	-30	-43
125	2140	0	10	0	100	70	1000	380	-1	-1	-13	-4.4	0	0	-24	-1.1	-20	-26

125	1970	1	11	1360	90	0	750	440	-1	-2	-13	-3.2	-3.8	-14	-23	-0.7	-21	-26
125	2520	3	15	1450	80	0	520	360	-2	-3	-17	-4.2	-5.7	-17	-29	-1.1	-18	-27
125	2670	2	14	1460	110	90	950	440	-1	-3	-16	-5.3	-4	-14	-27	-1.8	-25	-34
125	2590	2	12	1610	120	100	1160	330	-1	-3	-15	-8.7	-6.1	-16	-28	-3.7	-28	-44
125	2860	2	14	1520	120	100	1110	380	-2	-3	-16	-7.7	-4.7	-14	-29	-3.1	-27	-41
126	2540	2	13	1500	100	90	980	440	-1	-3	-16	-7.2	-5.2	-16	-28	-2.4	-29	-38
126	2670	2	13	1460	110	100	1100	440	-1	-3	-16	-7.3	-5.2	-16	-29	-2.6	-29	-39
126	2710	2	13	1520	120	100	1120	390	-1	-3	-16	-7.7	-7.1	-18	-32	-3	-29	-41
126	2070	0	10	1090	100	70	980	440	-1	-1	-13	-4.1	-2.1	-13	-24	-1	-23	-27
126	2830	2	14	1340	110	90	1010	400	-2	-3	-17	-7	-4.1	-15	-30	-2.4	-26	-37
126	1940	1	11	1440	80	0	720	480	-1	-2	-14	-5.2	-5.7	-17	-25	-1.1	-27	-30
137	2640	2	13	1440	110	90	990	370	-2	-3	-16	-7	-5.1	-16	-29	-2.6	-25	-37
137	2240	1	9	1310	120	100	1310	320	-1	-2	-12	-7.9	-3.7	-15	-25	-3.2	-27	-41
137	2720	2	13	1120	120	100	1180	470	-1	-3	-15	-4.3	-3.1	-15	-30	-1.4	-25	-31
137	2740	2	14	1570	120	110	1110	500	-1	-3	-16	-5.6	-7	-18	-31	-2.1	-29	-38
137	2570	2	14	1790	110	100	1000	450	-1	-3	-16	-7.7	-9.4	-21	-31	-3	-31	-43
137	2650	2	13	1200	120	100	1190	410	-1	-3	-15	-6	-2.6	-13	-27	-2.1	-26	-35
138	2360	2	13	1250	100	70	790	350	-1	-3	-15	-3.9	-4.4	-16	-28	-1.2	-18	-27
138	2660	2	12	1280	120	110	1300	360	-1	-3	-14	-6.7	-2.8	-13	-27	-2.8	-25	-38
138	2990	3	15	1810	120	120	1160	340	-2	-3	-17	-9.4	-8.4	-19	-32	-4.1	-30	-49
138	2500	2	13	1510	100	90	910	350	-1	-3	-15	-5.9	-6.1	-17	-28	-2.3	-23	-35
138	1880	1	10	1250	90	70	820	390	0	-2	-12	0	-4	-15	-23	-0.7	-19	-25
138	3020	2	14	1470	120	100	1110	260	-2	-4	-17	-9.5	-5	-16	-31	-3.9	-26	-44
149	2480	2	12	1400	100	110	1150	420	-1	-3	-15	-7.9	-5.8	-16	-28	-2.7	-26	-36
149	2730	2	14	1150	90	90	930	420	-2	-3	-17	-5.6	-4.2	-14	-30	-1.5	-20	-27
149	2380	2	12	0	90	80	900	410	-1	-3	-15	-3.8	0	0	-24	0	0	0
149	3190	3	16	1290	110	120	1210	500	-2	-4	-19	-7.8	-6.1	-17	-35	-2.5	-29	-36
149	2630	2	15	1830	70	80	610	340	-2	-4	-18	-10.1	-9.8	-19	-31	-3.3	-25	-39
149	2780	2	14	1180	100	90	910	370	-1	-3	-17	-4.6	-3.5	-13	-29	0	0	0
150	2520	2	15	1460	80	80	760	520	-1	-3	-17	-5.8	-7.6	-18	-31	-1.3	-25	-29
150	2450	2	12	1060	90	90	930	190	-1	-3	-14	-4.6	-4.4	-16	-30	-1.9	-10	-24
150	2810	3	15	1590	90	90	810	300	-2	-4	-18	-8.2	-9.1	-20	-34	-3	-21	-36

150	2680	2	14	1090	100	90	950	480	-1	-3	-17	-3	-3	-13	-29	-0.6	-18	-21
150	2920	2	15	1160	110	100	1060	490	-2	-3	-18	-5	-4.5	-15	-32	-1.4	-23	-27
150	2440	2	14	1410	80	80	740	430	-1	-3	-16	-4.5	-6.1	-16	-28	-1.2	-19	-25
176	2650	2	12	0	100	90	1060	300	-1	-3	-15	-3.7	0	0	-28	0	0	0
176	2610	2	13	1540	100	110	1030	410	-1	-3	-15	-7.5	-7.6	-18	-30	-2.6	-25	-36
176	2530	1	11	0	120	120	1470	490	-1	-2	-13	-5.9	0	0	-27	-1.7	-25	-28
176	2590	2	12	1050	110	110	1240	440	-1	-3	-14	-5.6	-2.2	-12	-26	-1.7	-22	-28
176	2760	2	14	1790	100	110	1040	440	-2	-3	-16	-9.2	-9.6	-20	-31	-3.3	-29	-42
176	2320	2	12	0	90	80	850	420	-1	-2	-14	0	0	0	-25	0	0	0
201	2870	3	15	1460	90	100	900	350	-2	-3	-17	-7.7	-7.1	-18	-32	-2.6	-21	-34
201	2740	2	14	1340	110	120	1140	460	-1	-3	-15	-5.4	-5.2	-16	-29	-1.9	-23	-31
201	2790	2	14	1210	90	100	960	400	-2	-3	-16	-7.1	-5.6	-17	-32	-2	-22	-30
201	2180	2	12	1400	70	70	630	400	-1	-3	-14	-4.2	-5.1	-15	-24	0	0	0
201	2920	3	15	1700	110	120	1060	320	-1	-3	-16	-7.2	-8.6	-19	-32	-3.2	-21	-38
201	2710	2	13	1180	100	110	1120	440	-1	-3	-15	-6.4	-4.1	-15	-29	-1.9	-23	-30
343	2930	3	14	1970	100	110	950	560	-2	-3	-14	-7.8	-12.1	-28	-32	-2.7	-31	-38
343	2530	2	12	1510	70	70	700	350	-2	-3	-12	-7.1	-6.9	-22	-26	-2.1	-19	-28
343	2430	2	9	1620	90	100	1090	380	-1	-2	-10	-8.3	-9	-25	-27	-3.1	-25	-36
343	1950	0	8	1260	70	0	780	410	-1	-1	-8	-4.9	-3.8	-19	-19	0	0	0
343	2450	2	9	1260	110	110	1340	440	-1	-2	-8	-4.8	-5.4	-21	-26	-1.9	-21	-28
343	2430	2	9	1140	110	110	1310	570	-1	-2	-9	-3.7	-4.3	-20	-25	-0.9	-24	-24
101	2740	2	12	1250	110	80	1080	310	-1	-3	-14	-6.3	-4.6	-17	-31	-2.4	0	-28
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101	2550	2	12	1540	100	80	920	470	-1	-3	-15	-5.9	-8.1	-20	-31	-1.9	-23	-29
101	2620	2	11	1370	110	90	1130	280	-1	-3	-13	-5.9	-5.2	-17	-29	0	0	0
101	2580	2	12	1120	100	70	980	410	-1	-3	-14	-5.5	-3.5	-15	-29	-1.5	-19	-23
101	2550	2	11	1110	100	80	1080	400	-1	-3	-14	-5.9	-3.6	-16	-29	-1.8	-20	-25
103	3080	3	14	1660	120	100	1110	370	-2	-4	-16	-8	-8.1	-19	-35	-3.3	-23	-36
103	2770	3	13	1650	110	90	1000	470	-1	-3	-16	-7.3	-9	-20	-34	-2.5	-26	-34
103	2870	2	12	1030	120	90	1210	500	-1	-3	-15	-4.2	-2	-13	-31	-1.2	-20	-23
103	2850	3	14	1950	90	80	700	320	-2	-4	-17	-8.2	-10.1	-20	-33	-3.2	-20	-35
103	2510	2	11	1020	110	70	1030	450	-1	-3	-13	0	-1.6	-12	-27	-0.6	-15	-17

103	2680	2	11	1600	110	90	1100	340	-1	-3	-14	-8.1	-7.2	-18	-31	-3.2	-22	-35
129	2550	3	12	1400	100	70	850	480	-1	-3	-14	-3.7	-6.1	-18	-30	-0.9	-18	-22
129	2550	2	12	1470	90	0	740	400	-1	-3	-15	-6.5	-6.1	-17	-29	-1.8	-19	-26
129	2590	2	11	1210	110	80	1070	500	-1	-3	-14	-3.9	-3.1	-14	-28	-1	-19	-22
129	2500	3	12	1540	90	0	720	430	-1	-3	-15	-5.5	-6.9	-18	-29	-1.5	-19	-25
129	2750	2	12	1270	110	80	1070	410	-1	-3	-14	-7.1	-4	-15	-30	-2.3	-21	-29
129	2840	3	13	1880	110	100	1040	470	-2	-3	-15	-9	-10.2	-21	-33	-3.3	-29	-39
130	2320	2	9	1110	110	100	1140	390	-1	-2	-11	-3.7	-4.1	-16	-25	-1.9	-24	-32
130	3050	3	14	1860	120	120	1190	420	-2	-4	-16	-9.3	-11.3	-23	-34	-4.5	-37	-52
130	2800	2	12	1240	130	110	1310	450	-2	-3	-13	-5.6	-3.3	-14	-26	-2.7	-30	-39
130	2770	2	11	1250	120	110	1250	250	-2	-3	-12	-6.5	-3.9	-15	-27	-3.6	-23	-40
130	3320	3	15	2040	130	130	1270	410	-3	-4	-17	-11.8	-11	-21	-33	-5.6	-41	-60
130	2470	2	10	1330	120	110	1190	410	-1	-2	-12	-4	-4.2	-15	-24	-2.3	-25	-35
141	2280	2	8	0	110	90	1090	210	-1	-2	-10	-3.3	0	0	-23	-2.1	-15	-28
141	2620	2	11	1300	110	100	1110	310	-2	-3	-13	-7	-4.9	-16	-27	-3.3	-26	-40
141	2690	2	11	1720	120	120	1230	410	-2	-3	-13	-8.8	-10.3	-22	-31	-4.2	-36	-50
141	2460	2	12	1770	110	110	1010	440	-1	-3	-13	-5.5	-10.2	-22	-28	-2.9	-30	-42
141	2670	2	10	1270	130	130	1400	360	-1	-2	-11	-4.1	-5	-17	-27	-2.9	-24	-38
141	2370	2	10	1120	100	80	920	370	-1	-3	-12	0	-2.4	-13	-23	-1.4	-20	-28
142	2400	2	9	0	120	100	1250	280	-1	-2	-10	0	0	0	-22	-2.1	-18	-29
142	2220	2	11	1830	90	90	760	420	-1	-3	-13	-6.7	-11.9	-25	-28	-2.9	-31	-42
142	2500	2	12	1890	100	110	980	430	-2	-3	-13	-7.5	-11.5	-24	-29	-3.6	-34	-47
142	2580	2	11	1360	120	120	1280	410	-1	-2	-12	-5.1	-6.1	-18	-27	-2.8	-29	-39
142	2990	2	12	1190	130	120	1370	420	-2	-3	-14	-8.3	-4.5	-17	-29	-3.6	-34	-44
142	2280	2	9	1210	120	110	1220	410	-1	-2	-11	0	-4.3	-16	-23	-1.9	-24	-33
153	1990	2	10	1470	80	0	680	420	-1	-2	-11	0	-6.8	-19	-22	-1.3	-23	-30
153	2480	2	12	1920	100	110	990	400	-1	-3	-13	-7.7	-10.5	-22	-26	-3.8	-33	-48
153	2390	3	12	1550	90	80	750	310	-1	-2	-13	-3.7	-7.7	-20	-26	-2.2	-20	-33
153	2270	2	11	1330	90	80	920	460	-1	-2	-12	-5.1	-5.1	-17	-23	-1.9	-29	-35
153	2040	0	8	0	100	80	1050	350	-1	0	-9	0	0	0	-20	-1.1	-18	-25
153	2550	2	11	1230	110	100	1160	370	-1	-2	-12	-4.9	-4.2	-16	-25	-2.5	-25	-36
154	2930	2	13	1650	130	130	1380	440	-2	-3	-16	-8.8	-7	-17	-29	-3.9	-35	-50

154	2910	3	14	1250	110	100	1090	370	-2	-3	-16	-6	-4.2	-14	-29	-2.4	-25	-37
154	2460	2	12	1610	110	100	1120	490	-1	-3	-14	-8.2	-7.8	-18	-27	-3	-35	-45
154	2580	2	12	1110	110	80	1040	390	-2	-3	-15	-4.8	-1.4	-11	-24	-1.7	-23	-32
154	2150	1	10	1340	100	90	1090	430	-1	-2	-12	-5.1	-3	-12	-20	-1.9	-26	-35
154	2840	2	13	1360	120	110	1230	460	-2	-3	-16	-6.9	-4.5	-14	-28	-2.7	-31	-41
127	2780	3	14	1570	110	100	990	530	-2	-3	-17	-6.3	-7.4	-17	-30	-2.2	-33	-40
127	2540	2	11	1330	110	90	1090	320	-1	-3	-15	-6.6	-4.9	-15	-27	-2.8	-25	-39
127	2200	1	9	1230	110	100	1290	450	-1	-2	-12	-5.2	-3.7	-13	-23	-2.1	-29	-36
127	2100	1	8	0	110	0	1140	300	-1	-2	-12	-3	0	0	-22	-1.2	0	-25
127	2500	2	11	1220	110	90	1190	440	-1	-3	-14	-5.8	-3.9	-14	-26	-2.2	-28	-37
127	2570	2	12	1470	110	100	1060	380	-1	-3	-15	-4.5	-4.8	-14	-25	-2.2	-23	-36
225	2730	2	11	1530	120	120	1270	360	-2	-3	-14	-8.3	-7.4	-19	-29	-3.7	-30	-46
225	2370	2	11	1420	90	90	970	410	-2	-3	-13	-6.3	-5	-16	-24	-2.3	-27	-37
225	2750	2	13	1540	100	100	1040	430	-2	-3	-15	-7.4	-5.7	-16	-26	-2.8	-30	-42
225	2530	2	10	1350	110	110	1290	450	-1	-3	-13	-7	-4.4	-15	-25	-2.8	-31	-41
225	2400	2	12	1720	80	80	710	350	-2	-3	-14	-7.6	-8.7	-20	-27	-2.8	-27	-41
225	2740	3	13	1760	100	100	990	370	-2	-3	-15	-8	-8.2	-18	-28	-3.4	-29	-45
239	2560	2	11	1350	110	110	1190	360	-1	-2	-12	-5.6	-3	-13	-23	-2.6	-24	-38
239	2670	2	13	1800	100	110	1110	570	-2	-3	-15	-9	-10	-21	-29	-3.2	-40	-49
239	2130	1	9	1350	100	90	1110	400	-1	-2	-11	-5.9	-3.5	-14	-20	-2.3	-27	-37
239	3320	3	14	1540	140	140	1450	440	-2	-4	-16	-9.4	-7.8	-19	-34	-4.1	-36	-51
239	2780	1	9	1210	140	130	1690	360	-2	-2	-12	-9.3	-2.9	-14	-25	-4.2	-33	-49
239	2120	1	8	1170	110	100	1210	280	-1	-2	-10	-5.4	-4.5	-17	-24	-2.5	-22	-35
240	2160	1	10	1710	90	100	910	290	-1	-2	-11	-6.8	-5.9	-20	-21	-3	-23	-38
240	2780	2	15	1640	90	90	820	540	-2	-3	-16	-6.5	-4.7	-19	-24	-2	-31	-36
240	2710	2	13	2090	100	120	1020	280	-2	-3	-14	-10.4	-11	-26	-29	-4.8	-31	-52
240	2670	2	13	1630	110	110	1060	440	-1	-2	-14	-6	-4.7	-19	-24	-2.5	-28	-38
240	2810	2	13	1800	120	130	1280	550	-2	-3	-14	-9.2	-7.3	-22	-27	-3.6	-39	-49
240	2240	1	11	1960	90	100	940	310	-1	-2	-12	-9.5	-8.5	-23	-23	-4.1	-30	-47
121	2830	2	14	1790	110	110	1080	330	-2	-3	-16	-8.6	-7.2	-20	-29	-4	-29	-46
121	2590	2	14	1570	100	90	830	440	-1	-3	-16	-5.3	-4.7	-17	-26	-2	-26	-34
121	2700	3	16	2170	80	90	570	420	-2	-3	-18	-8.2	-11.5	-25	-31	-3.2	-31	-44

121	2850	2	14	1690	130	120	1240	440	-1	-3	-16	-7	-6.7	-20	-29	-3.3	-31	-44
121	2720	2	13	1450	120	110	1230	380	-1	-3	-15	-6.8	-2.4	-14	-24	-3.1	-27	-40
121	2980	3	15	1440	110	100	960	340	-2	-3	-17	-5.3	-4.7	-18	-30	-2.4	-22	-34
216	2740	2	15	1640	90	90	810	430	-2	-3	-16	-6.7	-6	-21	-26	-2.4	-28	-37
216	2840	3	15	2270	100	120	910	370	-2	-3	-16	-10.4	-11.2	-25	-28	-4.6	-34	-53
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216	2820	2	13	1820	110	120	1110	290	-2	-3	-14	-9.7	-8	-23	-28	-4.4	-30	-49
216	2100	1	10	1380	90	90	990	420	-1	-2	-11	-5.2	-3.7	-18	-21	-1.9	-26	-33
216	2080	1	10	1480	100	100	980	290	-1	-2	-10	-5	-5.7	-21	-23	-2.4	-21	-34
207	2390	2	11	1340	110	110	1120	450	-1	-2	-12	-4	-3	-18	-23	-1.7	-25	-32
207	2890	2	15	1340	100	90	880	440	-2	-3	-16	-4.9	-2.5	-17	-26	-1.7	-24	-31
207	2690	2	14	1790	100	100	940	540	-2	-3	-16	-7.1	-7	-21	-26	-2.5	-34	-41
207	2510	2	12	1870	110	120	1100	420	-1	-2	-13	-8.4	-9.4	-24	-28	-3.6	-33	-46
207	2590	1	11	1140	130	120	1400	380	-1	-2	-12	-5.3	-0.5	-15	-22	-2.5	-25	-35
207	3010	2	12	1430	150	160	1760	400	-1	-2	-13	-8.7	-4.8	-20	-29	-4.4	-34	-49
266	2430	2	12	1880	0	0	590	360	-2	-3	-12	-7.2	-8.5	-23	-24	-2.6	-22	-33
266	2410	2	11	1590	90	90	930	490	-1	-2	-11	-4.7	-6.9	-23	-25	-1.6	-24	-29
266	2070	1	8	1320	100	100	1240	490	0	-1	-7	-5.1	-4	-20	-21	-1.8	-26	-30
266	2580	2	11	1710	90	100	990	320	-1	-3	-11	-8.5	-8.3	-24	-27	-3.5	-25	-39
266	2870	3	14	1690	90	100	960	560	-2	-3	-14	-6.8	-7.9	-24	-29	-2.2	-31	-35
266	2100	2	9	1470	60	0	680	320	-1	-2	-9	-5.5	-5.4	-21	-22	-1.8	-18	-26
109	2700	2	12	1490	100	100	1120	360	-1	-3	-13	-7.8	-5.9	-19	-29	-3.1	-25	-36
109	2640	2	12	1510	90	80	890	270	-1	-3	-13	-7.3	-4.8	-17	-27	-2.9	-19	-32
109	2530	2	10	0	110	90	1170	360	-1	-2	-12	-4.7	0	0	-22	-1.8	-18	-25
109	2190	2	11	1350	70	0	680	400	-1	-2	-12	-4	-2.8	-15	-22	-1	-17	-22
109	2430	2	12	1630	80	0	750	450	-1	-3	-14	-4.8	-6.3	-19	-26	-1.5	-22	-28
109	2750	2	13	1480	110	100	1100	490	-1	-3	-14	-5.8	-6.2	-20	-30	-2.1	-27	-32
110	2700	2	11	1270	100	90	1140	390	-1	-3	-13	-7.8	-1.9	-14	-25	-2.7	-25	-33
110	2820	3	14	1660	90	90	880	380	-2	-3	-15	-6.8	-6.5	-19	-29	-2.6	-23	-33
110	2420	2	12	1310	0	0	750	390	-1	-2	-13	0	-3.6	-17	-25	0	0	0
110	2690	2	11	1340	120	110	1320	480	-1	-2	-13	-6.3	-3.3	-16	-26	-2.4	-27	-33
110	2790	2	13	1460	110	100	1080	450	-1	-3	-14	-5.6	-4.3	-17	-27	-2.1	-24	-31

110	2500	2	12	1320	100	90	990	480	-1	-2	-13	-3.5	-4	-17	-26	-1.1	-21	-24
177	2550	2	12	1500	0	70	830	450	-2	-3	-13	-7.1	-4.1	-17	-24	-2.1	-26	-31
177	2490	1	10	1230	100	90	1150	380	-1	-2	-11	-6.6	-2.5	-16	-24	-2.4	-23	-31
177	2360	2	11	1250	90	80	960	540	-1	-2	-12	-5.1	-3.4	-18	-24	-1.1	-26	-26
177	2890	2	12	1740	120	120	1300	320	-1	-3	-12	-9.5	-8.7	-23	-31	-4.4	-28	-45
177	2340	2	10	1050	100	80	1060	450	-1	-2	-11	0	-1.6	-16	-24	-0.7	-18	-20
177	2750	3	13	1780	90	90	810	340	-1	-3	-14	-6.4	-8.7	-23	-30	-2.7	-21	-34
265	2990	3	13	1440	100	100	1090	410	-2	-3	-13	-9.4	-7.7	-23	-32	-3.3	-30	-40
265	2650	2	11	2070	90	110	960	350	-2	-3	-12	-11.3	-12.1	-26	-29	-4.6	-33	-49
265	2690	2	11	1230	100	100	1090	430	-1	-3	-11	-5.7	-3.5	-17	-25	-1.9	-23	-30
265	2610	2	12	1660	90	100	970	510	-2	-3	-12	-7.6	-8.5	-23	-27	-2.5	-31	-37
265	3000	2	10	1390	150	150	1760	430	-1	-2	-10	-8.8	-6.1	-20	-29	-4.1	-32	-45
265	2650	2	11	1460	90	90	990	310	-2	-3	-11	-8.8	-5.4	-19	-25	-3.3	-24	-37
323	2240	2	7	1640	90	120	1230	340	-1	-2	-6	-8.2	-10	-26	-25	-3.8	-32	-46
323	2530	3	11	1870	0	100	850	430	-2	-2	-10	-5.9	-10	-25	-24	-2.7	-29	-41
323	2300	2	8	0	80	0	1030	450	-1	-2	-7	0	0	0	-17	-0.1	-19	-20
323	2450	2	9	1680	80	110	1110	380	-2	-2	-8	-8.8	-8.2	-23	-23	-3.7	-33	-46
323	2460	2	8	1540	100	130	1330	460	-1	-2	-7	-6.8	-7.1	-22	-23	-3.1	-33	-43
163	2970	3	13	1440	120	100	1230	400	-2	-3	-15	-5.4	-4	-18	-29	-2.5	-23	-34
163	2030	0	8	1310	100	80	1150	450	-1	0	-10	-4.2	-4.3	-19	-24	-1.5	-24	-29
163	2650	2	13	1990	90	0	810	390	-2	-4	-15	0	-9.3	-23	-29	-3.7	-31	-44
163	2780	3	13	1840	110	90	970	350	-2	-3	-15	-6.5	-9.9	-25	-33	-3	-24	-39
163	2720	3	14	2310	90	80	790	410	-2	-4	-16	-11.1	-11.3	-24	-29	-4.3	-34	-50
164	2280	2	10	1290	90	0	840	300	-1	-3	-12	-4.1	-2.9	-17	-24	0	0	0
164	2220	2	9	1260	100	0	1040	370	-1	-2	-11	-2.9	-3.6	-18	-25	-1.2	-18	-25
164	2910	3	14	1610	110	100	1110	490	-2	-3	-15	-5.5	-6.7	-21	-31	-2.2	-27	-35
164	2940	3	15	1780	90	0	810	440	-2	-4	-17	-8.1	-7.1	-21	-30	-2.8	-29	-38
164	2270	2	12	1790	0	0	590	350	-1	-3	-14	-4.5	-8.4	-23	-27	-1.7	-19	-29
366	2390	2	10	1650	100	100	990	460	-1	-2	-11	-7.3	-8.2	-21	-25	-2.5	-29	-38
366	2610	2	11	1110	110	110	1150	480	-1	-2	-11	-3.1	-1.5	-14	-22	-1	-21	-26
366	2280	2	9	1330	90	90	930	350	-1	-2	-10	-6.4	-6.6	-21	-25	-2.1	-23	-32
366	2470	2	10	1430	110	120	1230	450	-1	-2	-10	-7	-6.6	-20	-25	-2.6	-29	-38

366	2370	1	8	1300	100	100	1150	300	-1	-2	-9	-8	-4.9	-18	-23	-3.1	-23	-37
158	2940	2	12	1290	120	130	1430	500	-1	-3	-13	-6.8	-5.1	-17	-31	-2.4	-28	-35
158	2650	2	11	1040	100	90	1090	450	-1	-3	-12	-4.4	-2.2	-14	-27	-0.9	-20	-24
158	2360	2	9	1140	100	90	1090	350	0	-2	-10	-5.1	-3.7	-16	-26	-1.6	-17	-26
158	2430	1	9	1240	100	100	1280	390	-1	-2	-10	-7.9	-3.7	-15	-25	-2.6	-25	-34
158	2870	2	11	1080	120	110	1360	350	-1	-3	-12	-6.9	-1.9	-13	-28	-2.5	-21	-32
385	2420	2	10	1480	110	120	1170	360	-1	-2	-9	-6.7	-8.2	-24	-26	-2.5	-23	-36
385	2830	3	14	2000	100	110	850	440	-2	-3	-13	-8.3	-9.3	-23	-25	-2.8	-28	-41
385	2600	2	12	1880	100	110	950	380	-2	-3	-11	-7.9	-8.6	-23	-23	-2.9	-25	-40
385	2560	2	10	1390	110	110	1250	510	-2	-2	-10	-7.4	-3	-17	-19	-2.2	-29	-36
385	2940	3	12	1760	140	150	1460	460	-1	-2	-11	-7.6	-6.8	-20	-24	-3.3	-30	-44
148	2970	3	14	1150	120	90	1020	330	-2	-3	-16	-4.8	-1.6	-12	-27	0	0	0
148	2870	2	14	1480	110	90	990	430	-2	-4	-17	-7.9	-6.9	-19	-31	-2.4	-27	-36
148	2020	1	8	1350	90	70	1010	350	-1	-2	-11	-8.6	-1.9	-11	-18	-2.5	-24	-34
148	2140	2	10	1480	100	80	910	400	-1	-2	-12	-5.3	-4.4	-15	-21	-1.5	-21	-29
148	2570	2	11	1650	120	110	1250	430	-1	-3	-14	-9	-7.2	-18	-27	-3.2	-30	-42
172	2370	2	11	1430	100	100	1100	390	0	-2	-12	-6.1	-5.1	-18	-24	-2.3	-24	-34
172	2460	2	12	1630	100	110	1210	450	-1	-2	-13	-8.8	-7	-20	-26	-3.3	-32	-43
172	2360	2	13	1490	0	80	760	350	-1	-3	-14	-6.4	-6.9	-20	-27	-2.1	-21	-32
172	2400	2	13	1500	90	90	890	420	-1	-3	-14	-6	-6.6	-20	-26	-2	-24	-33
172	2650	2	13	1450	100	100	990	330	-1	-3	-14	-6.3	-5.5	-18	-27	-2.5	-21	-34
391	1720	0	4	1410	80	90	1080	300	-1	0	-3	-6.6	-4.4	-22	0	-2.6	-24	-34
391	2430	2	8	1620	100	120	1110	260	-2	-2	-6	-6.1	-5.8	-23	-20	-3.1	-21	-37
391	2320	1	6	1570	120	150	1570	480	-1	-1	-4	-5.8	-5.6	-23	-19	-2.8	-32	-41
391	2820	2	9	1880	120	150	1390	370	-2	-2	-8	-7.5	-9.7	-27	-26	-3.9	-30	-47
391	2460	2	8	2040	110	140	1290	490	-1	-2	-7	-7.7	-10.9	-28	-23	-3.5	-35	-47
213	2830	2	12	1710	100	100	1080	400	-2	-3	-13	-10.1	-7.1	-19	-27	-3.8	-31	-43
213	2600	2	11	1360	110	100	1060	390	-1	-2	-11	-5.4	-5.7	-19	-27	-2.1	-22	-30
213	2970	3	14	2080	100	110	980	480	-2	-4	-15	-11.9	-12.2	-25	-32	-4.4	-38	-50
213	2740	2	10	1580	110	110	1290	380	-1	-3	-11	-9.9	-7.4	-20	-29	-4	-31	-44
213	2480	2	10	0	100	0	940	270	-1	-2	-11	-4.2	0	0	-23	0	0	0
237	2920	3	14	2110	100	110	900	440	-2	-3	-14	-9.6	-12.8	-26	-32	-3.8	-33	-46

237	2550	2	11	1890	90	100	1020	470	-1	-3	-12	-10.2	-11.6	-26	-30	-3.7	-35	-45
237	2240	2	9	1370	90	90	960	360	0	-2	-9	-3.7	-5.2	-19	-23	-1.6	-18	-26
237	2530	2	10	1350	100	100	1090	440	-1	-2	-11	-5.7	-3.4	-16	-22	-2	-24	-31
237	2400	2	10	1280	100	90	1080	440	-1	-2	-10	-5.5	-3.3	-16	-22	-1.8	-24	-29

TABLE A-2 1994 AVERAGE OUTPUT AND INPUT PRICES

Town	pml	pcl	pbgl	pwh	pbn	ppt	pvg	pfr	cdr	ccw	csg	pws	pcs	pch	pnt	psp
Berat	30	13300	2000	15	51	33	41.6	46.46	21400	22460	3673	22	22	152	25	8
Ballsh	28	13860	1900	14	57	32	41.2	49.22	20400	23550	3399	21	23	161	23	8
Burrel	27	15260	1980	15	51	30	42.4	46.92	20800	23330	3233	20	25	153	22	7
Bulqize	28	15120	2140	15	50	29	40.4	47.84	20600	21600	3366	19	23	156	22	7
Cerrik	30	14000	2040	16	50	30	38	50.14	21200	20520	3431	20	22	164	25	7
Corovode	29	13300	2080	15	57	33	39.6	49.68	20200	21390	3638	22	23	162	25	8
Delvine	29	13860	2060	16	56	32	42.8	46	21000	23540	3466	19	25	150	23	8
Devoll	29	14980	2120	16	52	30	40.8	43.7	21800	23320	3537	19	24	143	22	7
Durres	30	14280	2020	16	49	29	40.4	45.54	21600	21600	3709	19	22	149	23	7
Elbasan	28	14560	1900	15	51	30	42.8	50.14	20000	20520	3673	21	22	164	23	7
Erseke	27	14420	2040	14	53	32	40.8	49.68	19000	21380	3403	21	22	162	25	7
Fier	30	14840	2080	15	56	31	41.6	46	19800	23110	3232	20	24	150	23	7
Gramsh	28	14140	2180	16	53	31	43.6	43.7	22000	22030	3368	19	25	143	24	7
Gjirokaster	27	13300	2160	16	54	31	43.2	45.54	19600	22460	3705	19	24	149	25	7
Has	28	13860	2000	15	57	32	40	49.22	19200	22250	3675	20	24	161	25	7
Kavaje	30	14980	1900	14	56	30	38	46.92	19400	22900	3398	21	26	153	23	7
Korce	29	14280	1980	15	52	28	39.6	47.84	21800	21810	3232	20	24	144	22	7
Kruje	29	14560	2180	16	49	30	43.6	47.38	21600	20520	3366	21	23	146	23	7
Kucove	29	15120	2160	15	51	32	43.2	44.16	20000	21380	3637	22	21	164	25	7
Kukes	30	14000	2000	16	57	31	40	44.62	19000	21600	3471	21	23	162	25	8
Lac	28	13300	1900	15	52	31	38	50.14	19800	20520	3536	20	25	150	23	7
Lezhe	27	13860	1980	15	49	30	39.6	49.68	20200	21380	3504	19	24	143	22	7
Librazhd	28	15400	2140	16	51	29	42.8	46	21400	23760	3603	20	23	149	23	7
Lushnje	30	13720	2040	15	57	30	40.8	43.7	20400	21170	3437	22	24	152	25	7
Malsi madh	29	13440	1980	16	51	30	41.6	45.54	20800	20740	3570	21	24	161	23	7
Milot	29	13580	2200	15	50	32	41.2	46.46	21800	20950	3707	20	25	153	24	7
Mamurras	31	15260	1960	16	50	31	42.4	49.22	21600	23540	3670	19	24	156	23	7
Maliq	27	15120	1920	16	57	31	40.4	46.92	20000	23330	3397	20	24	164	25	8

Peqin	27	14000	1940	16	56	31	38	47.84	19000	21600	3232	21	23	162	23	8
Permet	27	13300	2180	15	52	31	39.6	50.14	19800	20520	3366	20	22	150	24	7
Peshkopi	31	13860	2160	14	49	31	42.8	49.68	21800	21390	3738	21	23	143	25	7
Pogradec	30	14140	2000	15	51	32	40.8	46	21600	21810	3334	20	25	149	25	7
Polican	28	14980	1900	17	53	30	41.6	43.7	20000	23110	3264	21	22	164	23	8
Prrenjas	27	14280	1980	15	56	31	41.2	45.54	19000	22030	3295	22	22	162	22	8
Puke	28	14560	2020	14	53	33	42.4	50.14	19800	22460	3709	21	23	164	23	7
Rogozhin	28	15260	2140	15	54	32	40.4	49.68	21400	23540	3673	20	25	162	25	7
Rreshen	30	15120	2040	16	57	30	42	46	20400	23330	3402	19	25	150	25	7
Rubik	29	14000	2080	16	56	29	43.6	43.7	20800	21600	3232	19	24	143	23	7
Sarande	29	13300	2180	15	52	30	43.2	45.54	20600	20520	3363	22	22	149	22	7
Shijak	31	13860	2160	14	49	33	40	43.7	21200	21380	3432	21	25	164	23	7
Shkoder	30	15260	2000	15	51	29	38	45.54	20200	23540	3636	20	25	162	25	7
Tepelene	28	13720	1900	14	57	29	39.6	49.22	19000	21380	3465	21	23	150	23	7
Tirane	30	13440	1980	15	56	29	44	46.92	19800	23120	3227	20	22	143	24	7
Tropoje	29	13580	2180	16	52	33	39.2	47.84	21400	22030	3363	19	23	149	24	7
Vlore	29	15260	2160	16	49	32	38.4	47.38	20400	22460	3640	20	25	161	24	7
Vore	27	15120	1920	16	57	31	40.4	46.92	20000	23320	3403	19	25	164	25	8

TABLE A-3 TRANSPORTATION COSTS FOR AGRICULTURAL OUTPUTS AND INPUTS

(lek/unit*kilometer)

ZONES	ml	cl	bgl	wh	bn	pt	vg	fr	dr	cw	sg	ws	cs	ch	nt	sp
central	0.27	13.95	4.65	0.05	0.04	0.09	0.08	0.08	18.69	18.44	4.66	0.07	0.02	N/A	0.06	0.03
s.east	0.3	15.63	5.21	0.05	0.04	0.1	0.08	0.08	20.93	20.65	5.22	0.08	0.02	N/A	0.07	0.03
s.west	0.29	15	5	0.05	0.04	0.1	0.08	0.08	20.09	19.82	5.01	0.08	0.02	N/A	0.07	0.03
n.east	0.33	17.14	5.71	0.06	0.05	0.11	0.09	0.09	22.96	22.65	5.72	0.09	0.03	N/A	0.08	0.03
n.west	0.29	15.26	5.09	0.05	0.04	0.1	0.08	0.08	20.44	20.17	5.1	0.08	0.02	N/A	0.07	0.03

TABLE A-4 COST PER HECTARE OF MECHANIZED SERVICES

segment	ptr	pco
161	290	520
161	290	520
161	290	520
161	290	520
161	290	520
161	290	520
162	290	520
162	290	520
162	290	520
162	290	520
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162	290	520
235	280	520
235	280	520
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235	280	520
235	280	520
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236	280	520
236	280	520
241	290	500
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242	290	500
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242	290	500
371	270	510
371	270	510
371	270	510
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371	270	510
371	270	510
203	290	500
203	290	500
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324	290	530
324	290	530
324	290	530
324	290	530
324	290	530
324	290	530
374	290	590
374	290	590
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233	300	570
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234	280	510
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405	260	530
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405	260	530
405	260	530
406	260	530
406	260	530
406	260	530
406	260	530
406	260	530
406	260	530

115	290	500
115	290	500
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TABLE A-5 INDEPENDENT VARIABLES

SEGMENT	pml	pcl	pbgl	pwh	pbn	ppt	pvg	pfr	cdr	ccw	csg	ctr	cco	pws	pcs	pch	pnt	psp	ln	lb	ir	ft
161	25.4	13059	1920	14.2	50.4	31.4	40.3	45.2	2951	3100	503	290	520	23.3	22.4	152	26.1	8.44	9.3	4	0.32	31
161	25.4	13059	1920	14.2	50.4	31.4	40.3	45.2	2951	3100	503	290	520	23.3	22.4	152	26.1	8.44	17.2	3	0.33	29
161	25.4	13059	1920	14.2	50.4	31.4	40.3	45.2	2951	3100	503	290	520	23.3	22.4	152	26.1	8.44	8.8	4	0.35	33
161	25.4	13059	1920	14.2	50.4	31.4	40.3	45.2	2951	3100	503	290	520	23.3	22.4	152	26.1	8.44	6.5	3	0.35	31
161	25.4	13059	1920	14.2	50.4	31.4	40.3	45.2	2951	3100	503	290	520	23.3	22.4	152	26.1	8.44	14.6	3	0.47	24
161	25.4	13059	1920	14.2	50.4	31.4	40.3	45.2	2951	3100	503	290	520	23.3	22.4	152	26.1	8.44	16.1	3	0.25	26
162	25.4	13057	1919	14.2	50.4	31.4	40.3	45.2	2951	3100	503	290	520	23.3	22.4	152	26.1	8.44	13.8	3	0.38	31
162	25.4	13057	1919	14.2	50.4	31.4	40.3	45.2	2951	3100	503	290	520	23.3	22.4	152	26.1	8.44	9.2	2	0.24	31
162	25.4	13057	1919	14.2	50.4	31.4	40.3	45.2	2951	3100	503	290	520	23.3	22.4	152	26.1	8.44	9.3	2	0.08	33
162	25.4	13057	1919	14.2	50.4	31.4	40.3	45.2	2951	3100	503	290	520	23.3	22.4	152	26.1	8.44	16.5	3	0.35	36
162	25.4	13057	1919	14.2	50.4	31.4	40.3	45.2	2951	3100	503	290	520	23.3	22.4	152	26.1	8.44	18.7	3	0.39	37
162	25.4	13057	1919	14.2	50.4	31.4	40.3	45.2	2951	3100	503	290	520	23.3	22.4	152	26.1	8.44	11.1	3	0.37	26
235	23.2	12948	1883	13.8	49.8	30.8	39.7	44.6	2930	3079	498	280	520	23.9	23	152	26.5	8.81	14.8	4	0.23	27
235	23.2	12948	1883	13.8	49.8	30.8	39.7	44.6	2930	3079	498	280	520	23.9	23	152	26.5	8.81	10.4	3	0.52	20
235	23.2	12948	1883	13.8	49.8	30.8	39.7	44.6	2930	3079	498	280	520	23.9	23	152	26.5	8.81	13.6	3	0.18	38
235	23.2	12948	1883	13.8	49.8	30.8	39.7	44.6	2930	3079	498	280	520	23.9	23	152	26.5	8.81	8.9	4	0.29	26
235	23.2	12948	1883	13.8	49.8	30.8	39.7	44.6	2930	3079	498	280	520	23.9	23	152	26.5	8.81	9.6	3	0.32	26
235	23.2	12948	1883	13.8	49.8	30.8	39.7	44.6	2930	3079	498	280	520	23.9	23	152	26.5	8.81	13.1	3	0.24	38
236	23.2	12946	1882	13.8	49.8	30.8	39.7	44.6	2930	3079	498	280	520	23.9	23	152	26.5	8.81	12.8	2	0.33	37
236	23.2	12946	1882	13.8	49.8	30.8	39.7	44.6	2930	3079	498	280	520	23.9	23	152	26.5	8.81	11.9	3	0.21	35
236	23.2	12946	1882	13.8	49.8	30.8	39.7	44.6	2930	3079	498	280	520	23.9	23	152	26.5	8.81	14	2	0.43	29
236	23.2	12946	1882	13.8	49.8	30.8	39.7	44.6	2930	3079	498	280	520	23.9	23	152	26.5	8.81	15.6	3	0.41	34
236	23.2	12946	1882	13.8	49.8	30.8	39.7	44.6	2930	3079	498	280	520	23.9	23	152	26.5	8.81	8.6	3	0.3	30
236	23.2	12946	1882	13.8	49.8	30.8	39.7	44.6	2930	3079	498	280	520	23.9	23	152	26.5	8.81	12.4	3	0.38	40
241	20.8	13499	1780	13.1	55.5	30.5	39.3	47.3	2789	3229	459	290	500	23.8	24	161	23.8	8.77	12.6	3	0.37	33
241	20.8	13499	1780	13.1	55.5	30.5	39.3	47.3	2789	3229	459	290	500	23.8	24	161	23.8	8.77	11.4	3	0.26	31
241	20.8	13499	1780	13.1	55.5	30.5	39.3	47.3	2789	3229	459	290	500	23.8	24	161	23.8	8.77	11.2	2	0.27	35

241	20.8	13499	1780	13.1	55.5	30.5	39.3	47.3	2789	3229	459	290	500	23.8	24	161	23.8	8.77	12.6	3	0.16	39
241	20.8	13499	1780	13.1	55.5	30.5	39.3	47.3	2789	3229	459	290	500	23.8	24	161	23.8	8.77	15	3	0.36	28
241	20.8	13499	1780	13.1	55.5	30.5	39.3	47.3	2789	3229	459	290	500	23.8	24	161	23.8	8.77	7.7	3	0.46	23
242	20.7	13497	1779	13	55.5	30.5	39.3	47.3	2788	3228	459	290	500	23.8	24	161	23.8	8.77	7.5	3	0.38	33
242	20.7	13497	1779	13	55.5	30.5	39.3	47.3	2788	3228	459	290	500	23.8	24	161	23.8	8.77	11.7	2	0.44	33
242	20.7	13497	1779	13	55.5	30.5	39.3	47.3	2788	3228	459	290	500	23.8	24	161	23.8	8.77	12.5	4	0.35	40
242	20.7	13497	1779	13	55.5	30.5	39.3	47.3	2788	3228	459	290	500	23.8	24	161	23.8	8.77	13.1	3	0.32	28
242	20.7	13497	1779	13	55.5	30.5	39.3	47.3	2788	3228	459	290	500	23.8	24	161	23.8	8.77	16	3	0.34	39
242	20.7	13497	1779	13	55.5	30.5	39.3	47.3	2788	3228	459	290	500	23.8	24	161	23.8	8.77	8.8	2	0.29	33
371	16.9	13304	1715	12.4	54.6	29.4	38.2	46.3	2752	3192	450	270	510	24.9	25.1	161	24.4	9.42	11.6	3	0.48	27
371	16.9	13304	1715	12.4	54.6	29.4	38.2	46.3	2752	3192	450	270	510	24.9	25.1	161	24.4	9.42	1.6	2	0.26	33
371	16.9	13304	1715	12.4	54.6	29.4	38.2	46.3	2752	3192	450	270	510	24.9	25.1	161	24.4	9.42	10.6	3	0.33	31
371	16.9	13304	1715	12.4	54.6	29.4	38.2	46.3	2752	3192	450	270	510	24.9	25.1	161	24.4	9.42	15.3	2	0.4	32
371	16.9	13304	1715	12.4	54.6	29.4	38.2	46.3	2752	3192	450	270	510	24.9	25.1	161	24.4	9.42	14.1	3	0.15	33
371	16.9	13304	1715	12.4	54.6	29.4	38.2	46.3	2752	3192	450	270	510	24.9	25.1	161	24.4	9.42	13.5	3	0.28	34
203	21.9	13556	1799	13.2	55.8	30.8	39.6	47.6	2799	3239	462	290	500	23.4	23.6	161	23.6	8.58	14.2	4	0.16	33
203	21.9	13556	1799	13.2	55.8	30.8	39.6	47.6	2799	3239	462	290	500	23.4	23.6	161	23.6	8.58	6.4	3	0.23	45
203	21.9	13556	1799	13.2	55.8	30.8	39.6	47.6	2799	3239	462	290	500	23.4	23.6	161	23.6	8.58	12.2	2	0.22	32
203	21.9	13556	1799	13.2	55.8	30.8	39.6	47.6	2799	3239	462	290	500	23.4	23.6	161	23.6	8.58	13.9	3	0.39	34
203	21.9	13556	1799	13.2	55.8	30.8	39.6	47.6	2799	3239	462	290	500	23.4	23.6	161	23.6	8.58	13.3	4	0.29	26
203	21.9	13556	1799	13.2	55.8	30.8	39.6	47.6	2799	3239	462	290	500	23.4	23.6	161	23.6	8.58	12	3	0.44	33
309	17.3	14797	1826	13.3	48.8	27.5	39.9	44.5	2825	3179	431	300	530	22.8	27	153	23.6	8.55	11.5	3	0.29	38
309	17.3	14797	1826	13.3	48.8	27.5	39.9	44.5	2825	3179	431	300	530	22.8	27	153	23.6	8.55	11.1	3	0.33	38
309	17.3	14797	1826	13.3	48.8	27.5	39.9	44.5	2825	3179	431	300	530	22.8	27	153	23.6	8.55	11.3	4	0.06	37
309	17.3	14797	1826	13.3	48.8	27.5	39.9	44.5	2825	3179	431	300	530	22.8	27	153	23.6	8.55	11.3	2	0.43	28
309	17.3	14797	1826	13.3	48.8	27.5	39.9	44.5	2825	3179	431	300	530	22.8	27	153	23.6	8.55	10.4	3	0.3	32
309	17.3	14797	1826	13.3	48.8	27.5	39.9	44.5	2825	3179	431	300	530	22.8	27	153	23.6	8.55	7.4	2	0.38	27
310	17.3	14795	1825	13.3	48.8	27.5	39.9	44.4	2825	3179	431	300	530	22.8	27	153	23.6	8.55	11.6	3	0.36	30
310	17.3	14795	1825	13.3	48.8	27.5	39.9	44.4	2825	3179	431	300	530	22.8	27	153	23.6	8.55	16.3	4	0.34	36
310	17.3	14795	1825	13.3	48.8	27.5	39.9	44.4	2825	3179	431	300	530	22.8	27	153	23.6	8.55	21.2	3	0.36	32
310	17.3	14795	1825	13.3	48.8	27.5	39.9	44.4	2825	3179	431	300	530	22.8	27	153	23.6	8.55	11.1	3	0.23	34
310	17.3	14795	1825	13.3	48.8	27.5	39.9	44.4	2825	3179	431	300	530	22.8	27	153	23.6	8.55	15.8	3	0.19	40

310	17.3	14795	1825	13.3	48.8	27.5	39.9	44.4	2825	3179	431	300	530	22.8	27	153	23.6	8.55	15.5	3	0.24	27
324	16.9	14774	1818	13.2	48.7	27.4	39.8	44.3	2821	3175	430	290	530	22.9	27.1	153	23.7	8.62	11.6	3	0.26	40
324	16.9	14774	1818	13.2	48.7	27.4	39.8	44.3	2821	3175	430	290	530	22.9	27.1	153	23.7	8.62	12.2	3	0.35	29
324	16.9	14774	1818	13.2	48.7	27.4	39.8	44.3	2821	3175	430	290	530	22.9	27.1	153	23.7	8.62	15	3	0.12	30
324	16.9	14774	1818	13.2	48.7	27.4	39.8	44.3	2821	3175	430	290	530	22.9	27.1	153	23.7	8.62	17.9	3	0.24	32
324	16.9	14774	1818	13.2	48.7	27.4	39.8	44.3	2821	3175	430	290	530	22.9	27.1	153	23.7	8.62	15.1	2	0.33	21
324	16.9	14774	1818	13.2	48.7	27.4	39.8	44.3	2821	3175	430	290	530	22.9	27.1	153	23.7	8.62	17.4	3	0.39	22
374	16.5	14559	1953	13.3	47.3	25.5	37.4	44.9	2779	2919	445	290	590	22.4	24.9	156	24.2	8.52	10.5	3	0.2	29
374	16.5	14559	1953	13.3	47.3	25.5	37.4	44.9	2779	2919	445	290	590	22.4	24.9	156	24.2	8.52	13.8	2	0.26	7
374	16.5	14559	1953	13.3	47.3	25.5	37.4	44.9	2779	2919	445	290	590	22.4	24.9	156	24.2	8.52	8.7	2	0.25	34
374	16.5	14559	1953	13.3	47.3	25.5	37.4	44.9	2779	2919	445	290	590	22.4	24.9	156	24.2	8.52	7.4	2	0.26	29
374	16.5	14559	1953	13.3	47.3	25.5	37.4	44.9	2779	2919	445	290	590	22.4	24.9	156	24.2	8.52	16.7	3	0.35	35
374	16.5	14559	1953	13.3	47.3	25.5	37.4	44.9	2779	2919	445	290	590	22.4	24.9	156	24.2	8.52	13	3	0.35	34
376	16.4	14556	1952	13.3	47.3	25.5	37.4	44.8	2779	2919	445	290	590	22.4	24.9	156	24.2	8.53	12.4	3	0.31	38
376	16.4	14556	1952	13.3	47.3	25.5	37.4	44.8	2779	2919	445	290	590	22.4	24.9	156	24.2	8.53	7.4	2	0.35	40
376	16.4	14556	1952	13.3	47.3	25.5	37.4	44.8	2779	2919	445	290	590	22.4	24.9	156	24.2	8.53	12.8	3	0.25	40
376	16.4	14556	1952	13.3	47.3	25.5	37.4	44.8	2779	2919	445	290	590	22.4	24.9	156	24.2	8.53	11.9	3	0.32	38
376	16.4	14556	1952	13.3	47.3	25.5	37.4	44.8	2779	2919	445	290	590	22.4	24.9	156	24.2	8.53	17.5	3	0.31	31
376	16.4	14556	1952	13.3	47.3	25.5	37.4	44.8	2779	2919	445	290	590	22.4	24.9	156	24.2	8.53	8.3	2	0.27	31
377	16.4	14555	1952	13.3	47.3	25.5	37.4	44.8	2778	2918	445	290	590	22.4	25	156	24.2	8.54	10.1	3	0.37	32
377	16.4	14555	1952	13.3	47.3	25.5	37.4	44.8	2778	2918	445	290	590	22.4	25	156	24.2	8.54	8.9	2	0.31	36
377	16.4	14555	1952	13.3	47.3	25.5	37.4	44.8	2778	2918	445	290	590	22.4	25	156	24.2	8.54	4.6	4	0.3	52
377	16.4	14555	1952	13.3	47.3	25.5	37.4	44.8	2778	2918	445	290	590	22.4	25	156	24.2	8.54	11	3	0.47	21
377	16.4	14555	1952	13.3	47.3	25.5	37.4	44.8	2778	2918	445	290	590	22.4	25	156	24.2	8.54	9.9	3	0.4	32
377	16.4	14555	1952	13.3	47.3	25.5	37.4	44.8	2778	2918	445	290	590	22.4	25	156	24.2	8.54	10.4	3	0.27	36
233	20.7	14771	2024	14	48.3	26.6	38.5	46	2819	2959	455	300	570	21.1	23.7	156	23.5	7.82	13	3	0.26	27
233	20.7	14771	2024	14	48.3	26.6	38.5	46	2819	2959	455	300	570	21.1	23.7	156	23.5	7.82	13.7	2	0.47	25
233	20.7	14771	2024	14	48.3	26.6	38.5	46	2819	2959	455	300	570	21.1	23.7	156	23.5	7.82	11.5	3	0.38	34
233	20.7	14771	2024	14	48.3	26.6	38.5	46	2819	2959	455	300	570	21.1	23.7	156	23.5	7.82	10.1	2	0.45	13
233	20.7	14771	2024	14	48.3	26.6	38.5	46	2819	2959	455	300	570	21.1	23.7	156	23.5	7.82	9.6	3	0.46	20
233	20.7	14771	2024	14	48.3	26.6	38.5	46	2819	2959	455	300	570	21.1	23.7	156	23.5	7.82	10.7	2	0.21	18
234	22.9	13649	1923	14.9	48.8	27.8	36.1	48.3	2902	2807	464	280	510	21.9	23.2	164	26.2	8.1	13.8	2	0.2	33

234	22.9	13649	1923	14.9	48.8	27.8	36.1	48.3	2902	2807	464	280	510	21.9	23.2	164	26.2	8.1	11.1	2	0.28	33
234	22.9	13649	1923	14.9	48.8	27.8	36.1	48.3	2902	2807	464	280	510	21.9	23.2	164	26.2	8.1	10.6	3	0.37	21
234	22.9	13649	1923	14.9	48.8	27.8	36.1	48.3	2902	2807	464	280	510	21.9	23.2	164	26.2	8.1	12.5	2	0.25	30
234	22.9	13649	1923	14.9	48.8	27.8	36.1	48.3	2902	2807	464	280	510	21.9	23.2	164	26.2	8.1	11.3	3	0.29	30
234	22.9	13649	1923	14.9	48.8	27.8	36.1	48.3	2902	2807	464	280	510	21.9	23.2	164	26.2	8.1	17	2	0.35	32
246	22.6	13631	1917	14.8	48.7	27.7	36	48.2	2899	2804	464	280	510	22	23.3	164	26.3	8.16	13.3	3	0.36	33
246	22.6	13631	1917	14.8	48.7	27.7	36	48.2	2899	2804	464	280	510	22	23.3	164	26.3	8.16	11.1	3	0.32	30
246	22.6	13631	1917	14.8	48.7	27.7	36	48.2	2899	2804	464	280	510	22	23.3	164	26.3	8.16	16.8	2	0.28	25
246	22.6	13631	1917	14.8	48.7	27.7	36	48.2	2899	2804	464	280	510	22	23.3	164	26.3	8.16	15.1	2	0.27	31
246	22.6	13631	1917	14.8	48.7	27.7	36	48.2	2899	2804	464	280	510	22	23.3	164	26.3	8.16	11.5	3	0.28	33
246	22.6	13631	1917	14.8	48.7	27.7	36	48.2	2899	2804	464	280	510	22	23.3	164	26.3	8.16	14.8	4	0.16	22
333	20	13501	1874	14.4	48.1	27	35.3	47.5	2875	2780	457	270	520	22.8	24.1	164	26.7	8.6	8.6	3	0.34	30
333	20	13501	1874	14.4	48.1	27	35.3	47.5	2875	2780	457	270	520	22.8	24.1	164	26.7	8.6	10.3	2	0.41	42
333	20	13501	1874	14.4	48.1	27	35.3	47.5	2875	2780	457	270	520	22.8	24.1	164	26.7	8.6	13.1	2	0.3	26
333	20	13501	1874	14.4	48.1	27	35.3	47.5	2875	2780	457	270	520	22.8	24.1	164	26.7	8.6	7.2	3	0.53	24
333	20	13501	1874	14.4	48.1	27	35.3	47.5	2875	2780	457	270	520	22.8	24.1	164	26.7	8.6	16.8	2	0.38	28
333	20	13501	1874	14.4	48.1	27	35.3	47.5	2875	2780	457	270	520	22.8	24.1	164	26.7	8.6	19.8	3	0.46	38
334	19.9	13499	1873	14.4	48.1	27	35.3	47.5	2874	2779	457	270	520	22.8	24.1	164	26.7	8.6	8.9	2	0.33	36
334	19.9	13499	1873	14.4	48.1	27	35.3	47.5	2874	2779	457	270	520	22.8	24.1	164	26.7	8.6	8.9	3	0.38	23
334	19.9	13499	1873	14.4	48.1	27	35.3	47.5	2874	2779	457	270	520	22.8	24.1	164	26.7	8.6	18.5	3	0.18	40
334	19.9	13499	1873	14.4	48.1	27	35.3	47.5	2874	2779	457	270	520	22.8	24.1	164	26.7	8.6	9.5	3	0.17	28
334	19.9	13499	1873	14.4	48.1	27	35.3	47.5	2874	2779	457	270	520	22.8	24.1	164	26.7	8.6	13.3	3	0.31	22
334	19.9	13499	1873	14.4	48.1	27	35.3	47.5	2874	2779	457	270	520	22.8	24.1	164	26.7	8.6	8	3	0.46	40
361	17.7	12759	1900	13.5	54.2	29.8	36.7	46.8	2727	2893	484	250	520	25.3	24.6	162	26.7	9.44	14	3	0.22	35
361	17.7	12759	1900	13.5	54.2	29.8	36.7	46.8	2727	2893	484	250	520	25.3	24.6	162	26.7	9.44	16	3	0.41	28
361	17.7	12759	1900	13.5	54.2	29.8	36.7	46.8	2727	2893	484	250	520	25.3	24.6	162	26.7	9.44	13.9	3	0.32	30
361	17.7	12759	1900	13.5	54.2	29.8	36.7	46.8	2727	2893	484	250	520	25.3	24.6	162	26.7	9.44	17.7	3	0.4	28
361	17.7	12759	1900	13.5	54.2	29.8	36.7	46.8	2727	2893	484	250	520	25.3	24.6	162	26.7	9.44	10.9	3	0.26	28
361	17.7	12759	1900	13.5	54.2	29.8	36.7	46.8	2727	2893	484	250	520	25.3	24.6	162	26.7	9.44	12.8	3	0.35	29
362	17.7	12757	1899	13.5	54.2	29.8	36.7	46.8	2727	2892	484	250	520	25.3	24.6	162	26.7	9.44	7.3	3	0.38	37
362	17.7	12757	1899	13.5	54.2	29.8	36.7	46.8	2727	2892	484	250	520	25.3	24.6	162	26.7	9.44	11.9	3	0.34	34
362	17.7	12757	1899	13.5	54.2	29.8	36.7	46.8	2727	2892	484	250	520	25.3	24.6	162	26.7	9.44	11.8	3	0.52	40

362	17.7	12757	1899	13.5	54.2	29.8	36.7	46.8	2727	2892	484	250	520	25.3	24.6	162	26.7	9.44	10.3	3	0.21	18
362	17.7	12757	1899	13.5	54.2	29.8	36.7	46.8	2727	2892	484	250	520	25.3	24.6	162	26.7	9.44	5.6	3	0.4	23
362	17.7	12757	1899	13.5	54.2	29.8	36.7	46.8	2727	2892	484	250	520	25.3	24.6	162	26.7	9.44	9.7	2	0.39	22
331	18.6	12804	1915	13.7	54.4	30.1	37	47	2735	2901	486	250	510	25	24.3	162	26.5	9.29	17.8	3	0.13	29
331	18.6	12804	1915	13.7	54.4	30.1	37	47	2735	2901	486	250	510	25	24.3	162	26.5	9.29	13.9	2	0.44	32
331	18.6	12804	1915	13.7	54.4	30.1	37	47	2735	2901	486	250	510	25	24.3	162	26.5	9.29	14.1	3	0.21	23
331	18.6	12804	1915	13.7	54.4	30.1	37	47	2735	2901	486	250	510	25	24.3	162	26.5	9.29	11.4	3	0.32	41
331	18.6	12804	1915	13.7	54.4	30.1	37	47	2735	2901	486	250	510	25	24.3	162	26.5	9.29	12.8	3	0.37	42
331	18.6	12804	1915	13.7	54.4	30.1	37	47	2735	2901	486	250	510	25	24.3	162	26.5	9.29	9.8	2	0.37	35
332	18.6	12802	1914	13.6	54.4	30	36.9	47	2735	2901	486	250	510	25	24.3	162	26.5	9.29	10.6	3	0.41	28
332	18.6	12802	1914	13.6	54.4	30	36.9	47	2735	2901	486	250	510	25	24.3	162	26.5	9.29	13	2	0.45	36
332	18.6	12802	1914	13.6	54.4	30	36.9	47	2735	2901	486	250	510	25	24.3	162	26.5	9.29	12.2	3	0.4	34
332	18.6	12802	1914	13.6	54.4	30	36.9	47	2735	2901	486	250	510	25	24.3	162	26.5	9.29	7.8	2	0.38	37
332	18.6	12802	1914	13.6	54.4	30	36.9	47	2735	2901	486	250	510	25	24.3	162	26.5	9.29	8.8	3	0.48	37
332	18.6	12802	1914	13.6	54.4	30	36.9	47	2735	2901	486	250	510	25	24.3	162	26.5	9.29	16.3	3	0.34	23
375	17.9	13298	1873	13.7	53.5	29.4	39.8	43	2835	3191	459	260	520	23	27.4	150	24.9	9.44	14.8	3	0.29	31
375	17.9	13298	1873	13.7	53.5	29.4	39.8	43	2835	3191	459	260	520	23	27.4	150	24.9	9.44	11.2	4	0.27	27
375	17.9	13298	1873	13.7	53.5	29.4	39.8	43	2835	3191	459	260	520	23	27.4	150	24.9	9.44	7.9	4	0.34	29
375	17.9	13298	1873	13.7	53.5	29.4	39.8	43	2835	3191	459	260	520	23	27.4	150	24.9	9.44	5.7	2	0.36	41
375	17.9	13298	1873	13.7	53.5	29.4	39.8	43	2835	3191	459	260	520	23	27.4	150	24.9	9.44	6.5	3	0.35	23
375	17.9	13298	1873	13.7	53.5	29.4	39.8	43	2835	3191	459	260	520	23	27.4	150	24.9	9.44	7.8	3	0.52	27
405	17	13253	1858	13.6	53.3	29.2	39.6	42.8	2827	3183	457	260	530	23.3	27.6	150	25	9.59	16.9	3	0.44	28
405	17	13253	1858	13.6	53.3	29.2	39.6	42.8	2827	3183	457	260	530	23.3	27.6	150	25	9.59	16.9	2	0.52	27
405	17	13253	1858	13.6	53.3	29.2	39.6	42.8	2827	3183	457	260	530	23.3	27.6	150	25	9.59	16.2	3	0.35	22
405	17	13253	1858	13.6	53.3	29.2	39.6	42.8	2827	3183	457	260	530	23.3	27.6	150	25	9.59	10.6	2	0.33	25
405	17	13253	1858	13.6	53.3	29.2	39.6	42.8	2827	3183	457	260	530	23.3	27.6	150	25	9.59	18	3	0.52	32
405	17	13253	1858	13.6	53.3	29.2	39.6	42.8	2827	3183	457	260	530	23.3	27.6	150	25	9.59	13.5	2	0.28	34
406	16.9	13251	1857	13.6	53.3	29.2	39.6	42.8	2826	3182	457	260	530	23.3	27.6	150	25	9.59	6.2	2	0.33	23
406	16.9	13251	1857	13.6	53.3	29.2	39.6	42.8	2826	3182	457	260	530	23.3	27.6	150	25	9.59	15.6	1	0.44	35
406	16.9	13251	1857	13.6	53.3	29.2	39.6	42.8	2826	3182	457	260	530	23.3	27.6	150	25	9.59	13.9	3	0.32	37
406	16.9	13251	1857	13.6	53.3	29.2	39.6	42.8	2826	3182	457	260	530	23.3	27.6	150	25	9.59	8.7	2	0.34	25
406	16.9	13251	1857	13.6	53.3	29.2	39.6	42.8	2826	3182	457	260	530	23.3	27.6	150	25	9.59	13.6	3	0.31	35

406	16.9	13251	1857	13.6	53.3	29.2	39.6	42.8	2826	3182	457	260	530	23.3	27.6	150	25	9.59	8.8	3	0.3	36
115	25.7	13688	2003	15	55.4	31.5	41.9	45.1	2908	3264	477	290	500	20.6	25	150	23.6	8.14	6.9	3	0.22	32
115	25.7	13688	2003	15	55.4	31.5	41.9	45.1	2908	3264	477	290	500	20.6	25	150	23.6	8.14	7.3	3	0.31	35
115	25.7	13688	2003	15	55.4	31.5	41.9	45.1	2908	3264	477	290	500	20.6	25	150	23.6	8.14	6.5	3	0.16	38
115	25.7	13688	2003	15	55.4	31.5	41.9	45.1	2908	3264	477	290	500	20.6	25	150	23.6	8.14	9.6	3	0.19	38
115	25.7	13688	2003	15	55.4	31.5	41.9	45.1	2908	3264	477	290	500	20.6	25	150	23.6	8.14	8.9	3	0.26	25
115	25.7	13688	2003	15	55.4	31.5	41.9	45.1	2908	3264	477	290	500	20.6	25	150	23.6	8.14	5.5	2	0.36	20
116	25.4	14806	2062	15.8	51.2	29.1	39.9	42.8	3020	3233	487	320	560	20.2	24.8	143	22.4	7.58	16.2	3	0.24	39
116	25.4	14806	2062	15.8	51.2	29.1	39.9	42.8	3020	3233	487	320	560	20.2	24.8	143	22.4	7.58	12.3	3	0.29	29
116	25.4	14806	2062	15.8	51.2	29.1	39.9	42.8	3020	3233	487	320	560	20.2	24.8	143	22.4	7.58	10	3	0.22	28
116	25.4	14806	2062	15.8	51.2	29.1	39.9	42.8	3020	3233	487	320	560	20.2	24.8	143	22.4	7.58	15	3	0.49	30
116	25.4	14806	2062	15.8	51.2	29.1	39.9	42.8	3020	3233	487	320	560	20.2	24.8	143	22.4	7.58	7.1	3	0.42	29
116	25.4	14806	2062	15.8	51.2	29.1	39.9	42.8	3020	3233	487	320	560	20.2	24.8	143	22.4	7.58	7.9	4	0.29	47
165	23.9	14733	2038	15.5	50.9	28.7	39.5	42.4	3006	3220	483	310	560	20.7	25.3	143	22.7	7.83	12.4	3	0.24	32
165	23.9	14733	2038	15.5	50.9	28.7	39.5	42.4	3006	3220	483	310	560	20.7	25.3	143	22.7	7.83	17.7	4	0.2	25
165	23.9	14733	2038	15.5	50.9	28.7	39.5	42.4	3006	3220	483	310	560	20.7	25.3	143	22.7	7.83	12	3	0.02	33
165	23.9	14733	2038	15.5	50.9	28.7	39.5	42.4	3006	3220	483	310	560	20.7	25.3	143	22.7	7.83	13.8	2	0.12	30
165	23.9	14733	2038	15.5	50.9	28.7	39.5	42.4	3006	3220	483	310	560	20.7	25.3	143	22.7	7.83	15.4	3	0.3	25
165	23.9	14733	2038	15.5	50.9	28.7	39.5	42.4	3006	3220	483	310	560	20.7	25.3	143	22.7	7.83	13.4	4	0.24	31
247	21.4	14610	1997	15.1	50.3	28	38.8	41.7	2983	3197	478	300	570	21.4	26	143	23.1	8.24	10	3	0.24	27
247	21.4	14610	1997	15.1	50.3	28	38.8	41.7	2983	3197	478	300	570	21.4	26	143	23.1	8.24	12.8	3	0.45	24
247	21.4	14610	1997	15.1	50.3	28	38.8	41.7	2983	3197	478	300	570	21.4	26	143	23.1	8.24	9.4	3	0.32	31
247	21.4	14610	1997	15.1	50.3	28	38.8	41.7	2983	3197	478	300	570	21.4	26	143	23.1	8.24	13.5	4	0.34	32
247	21.4	14610	1997	15.1	50.3	28	38.8	41.7	2983	3197	478	300	570	21.4	26	143	23.1	8.24	15.8	3	0.26	26
247	21.4	14610	1997	15.1	50.3	28	38.8	41.7	2983	3197	478	300	570	21.4	26	143	23.1	8.24	10.5	3	0.22	35
248	21.4	14608	1996	15.1	50.3	28	38.8	41.7	2983	3196	478	300	570	21.4	26	143	23.1	8.24	11.5	3	0.27	24
248	21.4	14608	1996	15.1	50.3	28	38.8	41.7	2983	3196	478	300	570	21.4	26	143	23.1	8.24	13.6	2	0.27	34
248	21.4	14608	1996	15.1	50.3	28	38.8	41.7	2983	3196	478	300	570	21.4	26	143	23.1	8.24	8.7	2	0.29	22
248	21.4	14608	1996	15.1	50.3	28	38.8	41.7	2983	3196	478	300	570	21.4	26	143	23.1	8.24	7.2	2	0.23	25
248	21.4	14608	1996	15.1	50.3	28	38.8	41.7	2983	3196	478	300	570	21.4	26	143	23.1	8.24	10.9	3	0.34	34
248	21.4	14608	1996	15.1	50.3	28	38.8	41.7	2983	3196	478	300	570	21.4	26	143	23.1	8.24	17.8	3	0.27	30
103	26.6	14126	1969	15.7	48.7	27.7	39.6	44.7	2995	2995	512	310	550	20.3	22.9	149	23.3	7.17	13.4	3	0.49	21

103	26.6	14126	1969	15.7	48.7	27.7	39.6	44.7	2995	2995	512	310	550	20.3	22.9	149	23.3	7.17	11.2	2	0.55	30
103	26.6	14126	1969	15.7	48.7	27.7	39.6	44.7	2995	2995	512	310	550	20.3	22.9	149	23.3	7.17	13	3	0.34	35
103	26.6	14126	1969	15.7	48.7	27.7	39.6	44.7	2995	2995	512	310	550	20.3	22.9	149	23.3	7.17	12.4	4	0.36	28
103	26.6	14126	1969	15.7	48.7	27.7	39.6	44.7	2995	2995	512	310	550	20.3	22.9	149	23.3	7.17	13.1	3	0.33	27
103	26.6	14126	1969	15.7	48.7	27.7	39.6	44.7	2995	2995	512	310	550	20.3	22.9	149	23.3	7.17	14.6	2	0.27	39
249	22.2	13907	1896	15	47.7	26.5	38.4	43.6	2954	2954	501	300	560	21.6	24.2	149	24	7.9	13.1	3	0.33	31
249	22.2	13907	1896	15	47.7	26.5	38.4	43.6	2954	2954	501	300	560	21.6	24.2	149	24	7.9	12.2	3	0.39	28
249	22.2	13907	1896	15	47.7	26.5	38.4	43.6	2954	2954	501	300	560	21.6	24.2	149	24	7.9	7.2	3	0.28	41
249	22.2	13907	1896	15	47.7	26.5	38.4	43.6	2954	2954	501	300	560	21.6	24.2	149	24	7.9	14.1	3	0.42	39
249	22.2	13907	1896	15	47.7	26.5	38.4	43.6	2954	2954	501	300	560	21.6	24.2	149	24	7.9	17.3	3	0.42	32
249	22.2	13907	1896	15	47.7	26.5	38.4	43.6	2954	2954	501	300	560	21.6	24.2	149	24	7.9	11.8	2	0.36	27
345	17.9	14043	1728	13.3	49.1	26.9	40	47.4	2703	2776	490	270	530	24.9	24	164	25	8.66	11.5	3	0.19	29
345	17.9	14043	1728	13.3	49.1	26.9	40	47.4	2703	2776	490	270	530	24.9	24	164	25	8.66	10.9	3	0.36	40
345	17.9	14043	1728	13.3	49.1	26.9	40	47.4	2703	2776	490	270	530	24.9	24	164	25	8.66	12.2	4	0.18	32
345	17.9	14043	1728	13.3	49.1	26.9	40	47.4	2703	2776	490	270	530	24.9	24	164	25	8.66	10.2	3	0.44	37
345	17.9	14043	1728	13.3	49.1	26.9	40	47.4	2703	2776	490	270	530	24.9	24	164	25	8.66	10.5	4	0.43	31
345	17.9	14043	1728	13.3	49.1	26.9	40	47.4	2703	2776	490	270	530	24.9	24	164	25	8.66	9.7	3	0.33	24
346	17.9	14041	1727	13.3	49.1	26.9	40	47.4	2703	2776	490	270	530	24.9	24	164	25	8.66	10.6	3	0.3	32
346	17.9	14041	1727	13.3	49.1	26.9	40	47.4	2703	2776	490	270	530	24.9	24	164	25	8.66	9	3	0.29	26
346	17.9	14041	1727	13.3	49.1	26.9	40	47.4	2703	2776	490	270	530	24.9	24	164	25	8.66	12	3	0.34	29
346	17.9	14041	1727	13.3	49.1	26.9	40	47.4	2703	2776	490	270	530	24.9	24	164	25	8.66	6.6	2	0.24	27
346	17.9	14041	1727	13.3	49.1	26.9	40	47.4	2703	2776	490	270	530	24.9	24	164	25	8.66	16.9	3	0.27	32
346	17.9	14041	1727	13.3	49.1	26.9	40	47.4	2703	2776	490	270	530	24.9	24	164	25	8.66	10.1	3	0.23	20
359	17.5	14022	1721	13.2	49	26.8	39.9	47.3	2699	2772	489	260	540	25	24.1	164	25	8.73	12.5	3	0.41	21
359	17.5	14022	1721	13.2	49	26.8	39.9	47.3	2699	2772	489	260	540	25	24.1	164	25	8.73	12.6	3	0.37	35
359	17.5	14022	1721	13.2	49	26.8	39.9	47.3	2699	2772	489	260	540	25	24.1	164	25	8.73	13.9	4	0.4	25
359	17.5	14022	1721	13.2	49	26.8	39.9	47.3	2699	2772	489	260	540	25	24.1	164	25	8.73	14.8	2	0.35	30
359	17.5	14022	1721	13.2	49	26.8	39.9	47.3	2699	2772	489	260	540	25	24.1	164	25	8.73	11.5	3	0.34	32
359	17.5	14022	1721	13.2	49	26.8	39.9	47.3	2699	2772	489	260	540	25	24.1	164	25	8.73	11.6	3	0.37	30
105	25.1	14403	1848	14.5	50.8	28.9	42	49.3	2771	2843	507	290	510	22.8	21.9	164	23.8	7.46	10.9	3	0.24	28
105	25.1	14403	1848	14.5	50.8	28.9	42	49.3	2771	2843	507	290	510	22.8	21.9	164	23.8	7.46	17	2	0.33	33
105	25.1	14403	1848	14.5	50.8	28.9	42	49.3	2771	2843	507	290	510	22.8	21.9	164	23.8	7.46	17.3	3	0.51	19

105	25.1	14403	1848	14.5	50.8	28.9	42	49.3	2771	2843	507	290	510	22.8	21.9	164	23.8	7.46	14	2	0.33	24
105	25.1	14403	1848	14.5	50.8	28.9	42	49.3	2771	2843	507	290	510	22.8	21.9	164	23.8	7.46	9.1	3	0.28	18
105	25.1	14403	1848	14.5	50.8	28.9	42	49.3	2771	2843	507	290	510	22.8	21.9	164	23.8	7.46	8	4	0.2	32
106	23.4	14261	1987	13.7	51.8	31.3	40	48.8	2630	2964	469	270	490	22.6	22.7	162	25.1	8.02	13.1	2	0.37	27
106	23.4	14261	1987	13.7	51.8	31.3	40	48.8	2630	2964	469	270	490	22.6	22.7	162	25.1	8.02	15.5	3	0.47	28
106	23.4	14261	1987	13.7	51.8	31.3	40	48.8	2630	2964	469	270	490	22.6	22.7	162	25.1	8.02	17.9	3	0.12	39
106	23.4	14261	1987	13.7	51.8	31.3	40	48.8	2630	2964	469	270	490	22.6	22.7	162	25.1	8.02	10.2	3	0.18	34
106	23.4	14261	1987	13.7	51.8	31.3	40	48.8	2630	2964	469	270	490	22.6	22.7	162	25.1	8.02	15.7	2	0.34	35
106	23.4	14261	1987	13.7	51.8	31.3	40	48.8	2630	2964	469	270	490	22.6	22.7	162	25.1	8.02	7.3	4	0.21	34
211	20.3	14104	1935	13.2	51	30.4	39.1	48	2601	2935	461	260	500	23.5	23.7	162	25.7	8.55	10.5	3	0.36	27
211	20.3	14104	1935	13.2	51	30.4	39.1	48	2601	2935	461	260	500	23.5	23.7	162	25.7	8.55	8.9	3	0.24	24
211	20.3	14104	1935	13.2	51	30.4	39.1	48	2601	2935	461	260	500	23.5	23.7	162	25.7	8.55	14.1	3	0.35	34
211	20.3	14104	1935	13.2	51	30.4	39.1	48	2601	2935	461	260	500	23.5	23.7	162	25.7	8.55	10.5	3	0.09	26
211	20.3	14104	1935	13.2	51	30.4	39.1	48	2601	2935	461	260	500	23.5	23.7	162	25.7	8.55	11.4	3	0.37	35
211	20.3	14104	1935	13.2	51	30.4	39.1	48	2601	2935	461	260	500	23.5	23.7	162	25.7	8.55	6.2	3	0.23	31
212	20.2	14102	1934	13.2	51	30.4	39.1	48	2601	2934	461	260	500	23.5	23.7	162	25.7	8.55	14.8	3	0.4	35
212	20.2	14102	1934	13.2	51	30.4	39.1	48	2601	2934	461	260	500	23.5	23.7	162	25.7	8.55	8.3	3	0.31	31
212	20.2	14102	1934	13.2	51	30.4	39.1	48	2601	2934	461	260	500	23.5	23.7	162	25.7	8.55	11.3	2	0.24	18
212	20.2	14102	1934	13.2	51	30.4	39.1	48	2601	2934	461	260	500	23.5	23.7	162	25.7	8.55	14.3	3	0.31	26
212	20.2	14102	1934	13.2	51	30.4	39.1	48	2601	2934	461	260	500	23.5	23.7	162	25.7	8.55	8.5	2	0.27	28
212	20.2	14102	1934	13.2	51	30.4	39.1	48	2601	2934	461	260	500	23.5	23.7	162	25.7	8.55	14.4	2	0.21	36
220	20	14090	1930	13.2	51	30.3	39	47.9	2598	2932	461	260	500	23.6	23.8	162	25.7	8.59	11.4	3	0.37	30
220	20	14090	1930	13.2	51	30.3	39	47.9	2598	2932	461	260	500	23.6	23.8	162	25.7	8.59	13.3	3	0.39	37
220	20	14090	1930	13.2	51	30.3	39	47.9	2598	2932	461	260	500	23.6	23.8	162	25.7	8.59	9.7	2	0.27	24
220	20	14090	1930	13.2	51	30.3	39	47.9	2598	2932	461	260	500	23.6	23.8	162	25.7	8.59	22.2	2	0.33	26
220	20	14090	1930	13.2	51	30.3	39	47.9	2598	2932	461	260	500	23.6	23.8	162	25.7	8.59	8.3	3	0.37	31
220	20	14090	1930	13.2	51	30.3	39	47.9	2598	2932	461	260	500	23.6	23.8	162	25.7	8.59	12.8	2	0.45	28
350	19.7	14315	1905	13.1	53.2	27.8	38.8	43.2	2674	3138	428	260	530	23.2	25.4	150	25.2	8.89	11.3	3	0.41	22
350	19.7	14315	1905	13.1	53.2	27.8	38.8	43.2	2674	3138	428	260	530	23.2	25.4	150	25.2	8.89	13	4	0.32	33
350	19.7	14315	1905	13.1	53.2	27.8	38.8	43.2	2674	3138	428	260	530	23.2	25.4	150	25.2	8.89	7.4	3	0.38	33
350	19.7	14315	1905	13.1	53.2	27.8	38.8	43.2	2674	3138	428	260	530	23.2	25.4	150	25.2	8.89	11.5	3	0.39	47
350	19.7	14315	1905	13.1	53.2	27.8	38.8	43.2	2674	3138	428	260	530	23.2	25.4	150	25.2	8.89	16.1	2	0.38	28

350	19.7	14315	1905	13.1	53.2	27.8	38.8	43.2	2674	3138	428	260	530	23.2	25.4	150	25.2	8.89	11.8	3	0.27	36
363	19.4	14296	1899	13	53.1	27.7	38.7	43.1	2670	3134	427	260	530	23.3	25.5	150	25.3	8.96	14.1	3	0.25	28
363	19.4	14296	1899	13	53.1	27.7	38.7	43.1	2670	3134	427	260	530	23.3	25.5	150	25.3	8.96	13	3	0.27	26
363	19.4	14296	1899	13	53.1	27.7	38.7	43.1	2670	3134	427	260	530	23.3	25.5	150	25.3	8.96	10.1	3	0.37	40
363	19.4	14296	1899	13	53.1	27.7	38.7	43.1	2670	3134	427	260	530	23.3	25.5	150	25.3	8.96	14	3	0.4	40
363	19.4	14296	1899	13	53.1	27.7	38.7	43.1	2670	3134	427	260	530	23.3	25.5	150	25.3	8.96	11.9	3	0.28	35
363	19.4	14296	1899	13	53.1	27.7	38.7	43.1	2670	3134	427	260	530	23.3	25.5	150	25.3	8.96	20.4	3	0.33	32
365	19.3	14293	1898	13	53.1	27.7	38.7	43.1	2670	3133	427	260	530	23.3	25.5	150	25.3	8.97	15.1	2	0.33	35
365	19.3	14293	1898	13	53.1	27.7	38.7	43.1	2670	3133	427	260	530	23.3	25.5	150	25.3	8.97	13.7	3	0.39	26
365	19.3	14293	1898	13	53.1	27.7	38.7	43.1	2670	3133	427	260	530	23.3	25.5	150	25.3	8.97	15.3	2	0.25	32
365	19.3	14293	1898	13	53.1	27.7	38.7	43.1	2670	3133	427	260	530	23.3	25.5	150	25.3	8.97	5.6	3	0.32	28
365	19.3	14293	1898	13	53.1	27.7	38.7	43.1	2670	3133	427	260	530	23.3	25.5	150	25.3	8.97	17.5	3	0.35	41
365	19.3	14293	1898	13	53.1	27.7	38.7	43.1	2670	3133	427	260	530	23.3	25.5	150	25.3	8.97	9.5	3	0.42	31
378	16.7	13573	1991	14.5	50.4	28.2	40.6	40.7	2974	2979	445	280	540	22.4	26.9	143	25.8	9.17	7	3	0.32	24
378	16.7	13573	1991	14.5	50.4	28.2	40.6	40.7	2974	2979	445	280	540	22.4	26.9	143	25.8	9.17	10.2	3	0.33	30
378	16.7	13573	1991	14.5	50.4	28.2	40.6	40.7	2974	2979	445	280	540	22.4	26.9	143	25.8	9.17	13	1	0.22	25
378	16.7	13573	1991	14.5	50.4	28.2	40.6	40.7	2974	2979	445	280	540	22.4	26.9	143	25.8	9.17	14.9	3	0.3	32
378	16.7	13573	1991	14.5	50.4	28.2	40.6	40.7	2974	2979	445	280	540	22.4	26.9	143	25.8	9.17	10.2	3	0.45	32
378	16.7	13573	1991	14.5	50.4	28.2	40.6	40.7	2974	2979	445	280	540	22.4	26.9	143	25.8	9.17	15.5	3	0.13	23
337	17.9	13635	2012	14.7	50.7	28.5	40.9	41	2986	2990	448	290	540	22	26.6	143	25.6	8.97	12.1	3	0.5	40
337	17.9	13635	2012	14.7	50.7	28.5	40.9	41	2986	2990	448	290	540	22	26.6	143	25.6	8.97	10.8	2	0.38	38
337	17.9	13635	2012	14.7	50.7	28.5	40.9	41	2986	2990	448	290	540	22	26.6	143	25.6	8.97	10.9	2	0.48	36
337	17.9	13635	2012	14.7	50.7	28.5	40.9	41	2986	2990	448	290	540	22	26.6	143	25.6	8.97	9.5	2	0.37	31
337	17.9	13635	2012	14.7	50.7	28.5	40.9	41	2986	2990	448	290	540	22	26.6	143	25.6	8.97	13.4	4	0.36	27
337	17.9	13635	2012	14.7	50.7	28.5	40.9	41	2986	2990	448	290	540	22	26.6	143	25.6	8.97	12.4	3	0.22	29
338	17.9	13633	2011	14.7	50.7	28.5	40.9	41	2985	2990	448	290	540	22	26.6	143	25.6	8.97	15.8	3	0.37	29
338	17.9	13633	2011	14.7	50.7	28.5	40.9	41	2985	2990	448	290	540	22	26.6	143	25.6	8.97	13.4	3	0.36	36
338	17.9	13633	2011	14.7	50.7	28.5	40.9	41	2985	2990	448	290	540	22	26.6	143	25.6	8.97	9.6	2	0.07	32
338	17.9	13633	2011	14.7	50.7	28.5	40.9	41	2985	2990	448	290	540	22	26.6	143	25.6	8.97	15.1	3	0.38	41
338	17.9	13633	2011	14.7	50.7	28.5	40.9	41	2985	2990	448	290	540	22	26.6	143	25.6	8.97	8.2	3	0.47	36
338	17.9	13633	2011	14.7	50.7	28.5	40.9	41	2985	2990	448	290	540	22	26.6	143	25.6	8.97	5.3	3	0.36	41
351	17.5	13614	2005	14.6	50.6	28.4	40.8	40.9	2982	2986	447	290	540	22.2	26.7	143	25.7	9.04	13.6	3	0.25	23

351	17.5	13614	2005	14.6	50.6	28.4	40.8	40.9	2982	2986	447	290	540	22.2	26.7	143	25.7	9.04	12.8	2	0.39	33
351	17.5	13614	2005	14.6	50.6	28.4	40.8	40.9	2982	2986	447	290	540	22.2	26.7	143	25.7	9.04	8.6	4	0.4	42
351	17.5	13614	2005	14.6	50.6	28.4	40.8	40.9	2982	2986	447	290	540	22.2	26.7	143	25.7	9.04	13.5	3	0.45	31
351	17.5	13614	2005	14.6	50.6	28.4	40.8	40.9	2982	2986	447	290	540	22.2	26.7	143	25.7	9.04	19.1	2	0.27	28
351	17.5	13614	2005	14.6	50.6	28.4	40.8	40.9	2982	2986	447	290	540	22.2	26.7	143	25.7	9.04	11.6	3	0.52	24
352	16	12772	1984	14.4	51.6	28.1	40.4	42.7	2645	3046	494	270	570	23	25.6	149	26.8	8.97	16.3	3	0.41	30
352	16	12772	1984	14.4	51.6	28.1	40.4	42.7	2645	3046	494	270	570	23	25.6	149	26.8	8.97	9.8	3	0.19	29
352	16	12772	1984	14.4	51.6	28.1	40.4	42.7	2645	3046	494	270	570	23	25.6	149	26.8	8.97	13.1	4	0.41	26
352	16	12772	1984	14.4	51.6	28.1	40.4	42.7	2645	3046	494	270	570	23	25.6	149	26.8	8.97	13.7	3	0.26	31
352	16	12772	1984	14.4	51.6	28.1	40.4	42.7	2645	3046	494	270	570	23	25.6	149	26.8	8.97	11.2	4	0.2	41
352	16	12772	1984	14.4	51.6	28.1	40.4	42.7	2645	3046	494	270	570	23	25.6	149	26.8	8.97	6.9	3	0.29	36
383	15.1	12726	1969	14.3	51.4	27.8	40.1	42.5	2637	3038	492	270	570	23.3	25.9	149	27	9.13	9.7	3	0.37	28
383	15.1	12726	1969	14.3	51.4	27.8	40.1	42.5	2637	3038	492	270	570	23.3	25.9	149	27	9.13	13	2	0.34	34
383	15.1	12726	1969	14.3	51.4	27.8	40.1	42.5	2637	3038	492	270	570	23.3	25.9	149	27	9.13	11.8	3	0.32	28
383	15.1	12726	1969	14.3	51.4	27.8	40.1	42.5	2637	3038	492	270	570	23.3	25.9	149	27	9.13	9.9	3	0.3	29
383	15.1	12726	1969	14.3	51.4	27.8	40.1	42.5	2637	3038	492	270	570	23.3	25.9	149	27	9.13	12.5	2	0.38	37
383	15.1	12726	1969	14.3	51.4	27.8	40.1	42.5	2637	3038	492	270	570	23.3	25.9	149	27	9.13	6.9	3	0.14	33
305	17.5	12843	2008	14.7	52	28.5	40.8	43.1	2659	3060	497	280	570	22.6	25.2	149	26.6	8.74	9.2	4	0.32	31
305	17.5	12843	2008	14.7	52	28.5	40.8	43.1	2659	3060	497	280	570	22.6	25.2	149	26.6	8.74	10.4	3	0.53	18
305	17.5	12843	2008	14.7	52	28.5	40.8	43.1	2659	3060	497	280	570	22.6	25.2	149	26.6	8.74	7	2	0.36	32
305	17.5	12843	2008	14.7	52	28.5	40.8	43.1	2659	3060	497	280	570	22.6	25.2	149	26.6	8.74	11	3	0.27	32
305	17.5	12843	2008	14.7	52	28.5	40.8	43.1	2659	3060	497	280	570	22.6	25.2	149	26.6	8.74	7.4	4	0.22	30
305	17.5	12843	2008	14.7	52	28.5	40.8	43.1	2659	3060	497	280	570	22.6	25.2	149	26.6	8.74	14.3	3	0.46	34
320	17	12820	2000	14.6	51.8	28.3	40.6	43	2654	3055	496	270	570	22.7	25.3	149	26.7	8.81	15.1	3	0.28	24
320	17	12820	2000	14.6	51.8	28.3	40.6	43	2654	3055	496	270	570	22.7	25.3	149	26.7	8.81	15.2	3	0.41	25
320	17	12820	2000	14.6	51.8	28.3	40.6	43	2654	3055	496	270	570	22.7	25.3	149	26.7	8.81	16.2	2	0.34	30
320	17	12820	2000	14.6	51.8	28.3	40.6	43	2654	3055	496	270	570	22.7	25.3	149	26.7	8.81	13.9	2	0.22	25
320	17	12820	2000	14.6	51.8	28.3	40.6	43	2654	3055	496	270	570	22.7	25.3	149	26.7	8.81	13.9	3	0.18	26
320	17	12820	2000	14.6	51.8	28.3	40.6	43	2654	3055	496	270	570	22.7	25.3	149	26.7	8.81	12.7	2	0.3	26
321	18.1	13379	1840	13.4	54.4	29.2	37.4	46.7	2598	3025	492	280	540	23.1	25.8	161	26.5	9.03	14.1	2	0.36	30
321	18.1	13379	1840	13.4	54.4	29.2	37.4	46.7	2598	3025	492	280	540	23.1	25.8	161	26.5	9.03	14.3	2	0.41	30
321	18.1	13379	1840	13.4	54.4	29.2	37.4	46.7	2598	3025	492	280	540	23.1	25.8	161	26.5	9.03	10.1	2	0.08	38

321	18.1	13379	1840	13.4	54.4	29.2	37.4	46.7	2598	3025	492	280	540	23.1	25.8	161	26.5	9.03	15.5	2	0.33	40
321	18.1	13379	1840	13.4	54.4	29.2	37.4	46.7	2598	3025	492	280	540	23.1	25.8	161	26.5	9.03	6.3	2	0.23	28
321	18.1	13379	1840	13.4	54.4	29.2	37.4	46.7	2598	3025	492	280	540	23.1	25.8	161	26.5	9.03	11.8	2	0.39	42
322	18.1	13377	1839	13.4	54.4	29.2	37.4	46.6	2598	3025	492	280	540	23.1	25.8	161	26.5	9.03	8.9	3	0.38	24
322	18.1	13377	1839	13.4	54.4	29.2	37.4	46.6	2598	3025	492	280	540	23.1	25.8	161	26.5	9.03	12.7	4	0.35	24
322	18.1	13377	1839	13.4	54.4	29.2	37.4	46.6	2598	3025	492	280	540	23.1	25.8	161	26.5	9.03	5.9	2	0.29	36
322	18.1	13377	1839	13.4	54.4	29.2	37.4	46.6	2598	3025	492	280	540	23.1	25.8	161	26.5	9.03	17.4	4	0.39	29
322	18.1	13377	1839	13.4	54.4	29.2	37.4	46.6	2598	3025	492	280	540	23.1	25.8	161	26.5	9.03	11.4	4	0.42	40
322	18.1	13377	1839	13.4	54.4	29.2	37.4	46.6	2598	3025	492	280	540	23.1	25.8	161	26.5	9.03	14	3	0.26	34
335	17.7	13358	1833	13.3	54.3	29.1	37.3	46.5	2594	3021	491	280	540	23.2	25.9	161	26.5	9.1	8.6	2	0.4	35
335	17.7	13358	1833	13.3	54.3	29.1	37.3	46.5	2594	3021	491	280	540	23.2	25.9	161	26.5	9.1	16.5	3	0.32	30
335	17.7	13358	1833	13.3	54.3	29.1	37.3	46.5	2594	3021	491	280	540	23.2	25.9	161	26.5	9.1	8.3	3	0.34	34
335	17.7	13358	1833	13.3	54.3	29.1	37.3	46.5	2594	3021	491	280	540	23.2	25.9	161	26.5	9.1	8.9	4	0.42	28
335	17.7	13358	1833	13.3	54.3	29.1	37.3	46.5	2594	3021	491	280	540	23.2	25.9	161	26.5	9.1	7.4	3	0.22	36
335	17.7	13358	1833	13.3	54.3	29.1	37.3	46.5	2594	3021	491	280	540	23.2	25.9	161	26.5	9.1	11	2	0.26	29
380	16.3	13290	1810	13.1	54	28.8	37	46.2	2582	3008	487	270	550	23.6	26.3	161	26.7	9.32	16.9	3	0.3	29
380	16.3	13290	1810	13.1	54	28.8	37	46.2	2582	3008	487	270	550	23.6	26.3	161	26.7	9.32	9.4	3	0.4	19
380	16.3	13290	1810	13.1	54	28.8	37	46.2	2582	3008	487	270	550	23.6	26.3	161	26.7	9.32	9.9	3	0.21	19
380	16.3	13290	1810	13.1	54	28.8	37	46.2	2582	3008	487	270	550	23.6	26.3	161	26.7	9.32	11.7	3	0.39	36
380	16.3	13290	1810	13.1	54	28.8	37	46.2	2582	3008	487	270	550	23.6	26.3	161	26.7	9.32	16.8	3	0.24	29
380	16.3	13290	1810	13.1	54	28.8	37	46.2	2582	3008	487	270	550	23.6	26.3	161	26.7	9.32	13.6	4	0.39	25
381	18.5	14409	1710	12.4	53.5	27.3	35	43.9	2609	3099	449	270	560	24.8	27.4	153	24.9	8.98	12.7	3	0.35	39
381	18.5	14409	1710	12.4	53.5	27.3	35	43.9	2609	3099	449	270	560	24.8	27.4	153	24.9	8.98	12	3	0.29	27
381	18.5	14409	1710	12.4	53.5	27.3	35	43.9	2609	3099	449	270	560	24.8	27.4	153	24.9	8.98	11.4	3	0.28	31
381	18.5	14409	1710	12.4	53.5	27.3	35	43.9	2609	3099	449	270	560	24.8	27.4	153	24.9	8.98	10.6	3	0.22	39
381	18.5	14409	1710	12.4	53.5	27.3	35	43.9	2609	3099	449	270	560	24.8	27.4	153	24.9	8.98	9.2	3	0.27	44
381	18.5	14409	1710	12.4	53.5	27.3	35	43.9	2609	3099	449	270	560	24.8	27.4	153	24.9	8.98	9.6	2	0.39	41
453	16.4	14301	1674	12	53	26.7	34.4	43.3	2589	3079	444	260	570	25.5	28.1	153	25.3	9.34	22.3	4	0.26	25
453	16.4	14301	1674	12	53	26.7	34.4	43.3	2589	3079	444	260	570	25.5	28.1	153	25.3	9.34	16.8	4	0.2	30
453	16.4	14301	1674	12	53	26.7	34.4	43.3	2589	3079	444	260	570	25.5	28.1	153	25.3	9.34	4	3	0.41	21
453	16.4	14301	1674	12	53	26.7	34.4	43.3	2589	3079	444	260	570	25.5	28.1	153	25.3	9.34	9.4	2	0.21	30
453	16.4	14301	1674	12	53	26.7	34.4	43.3	2589	3079	444	260	570	25.5	28.1	153	25.3	9.34	12	3	0.19	34

453	16.4	14301	1674	12	53	26.7	34.4	43.3	2589	3079	444	260	570	25.5	28.1	153	25.3	9.34	15.4	3	0.57	26
454	16.3	14299	1673	12	53	26.7	34.4	43.3	2589	3078	444	260	570	25.5	28.1	153	25.3	9.34	16	4	0.38	40
454	16.3	14299	1673	12	53	26.7	34.4	43.3	2589	3078	444	260	570	25.5	28.1	153	25.3	9.34	17.2	2	0.33	20
454	16.3	14299	1673	12	53	26.7	34.4	43.3	2589	3078	444	260	570	25.5	28.1	153	25.3	9.34	13	1	0.32	44
454	16.3	14299	1673	12	53	26.7	34.4	43.3	2589	3078	444	260	570	25.5	28.1	153	25.3	9.34	15	4	0.36	35
454	16.3	14299	1673	12	53	26.7	34.4	43.3	2589	3078	444	260	570	25.5	28.1	153	25.3	9.34	5.9	4	0.38	35
454	16.3	14299	1673	12	53	26.7	34.4	43.3	2589	3078	444	260	570	25.5	28.1	153	25.3	9.34	8.5	3	0.35	40
250	22.5	14605	1775	13	54.4	28.3	36	44.9	2646	3135	459	280	550	23.7	26.2	153	24.3	8.32	11.8	3	0.57	41
250	22.5	14605	1775	13	54.4	28.3	36	44.9	2646	3135	459	280	550	23.7	26.2	153	24.3	8.32	14.9	3	0.35	30
250	22.5	14605	1775	13	54.4	28.3	36	44.9	2646	3135	459	280	550	23.7	26.2	153	24.3	8.32	10.3	2	0.33	28
250	22.5	14605	1775	13	54.4	28.3	36	44.9	2646	3135	459	280	550	23.7	26.2	153	24.3	8.32	7.3	3	0.36	21
250	22.5	14605	1775	13	54.4	28.3	36	44.9	2646	3135	459	280	550	23.7	26.2	153	24.3	8.32	9.8	3	0.38	34
250	22.5	14605	1775	13	54.4	28.3	36	44.9	2646	3135	459	280	550	23.7	26.2	153	24.3	8.32	7.5	2	0.39	18
107	25.4	14120	1927	14.3	51.3	27.6	38.7	47	3022	3024	445	310	560	21.4	24.7	144	22.4	7.19	16.2	3	0.21	38
107	25.4	14120	1927	14.3	51.3	27.6	38.7	47	3022	3024	445	310	560	21.4	24.7	144	22.4	7.19	6.9	2	0.35	25
107	25.4	14120	1927	14.3	51.3	27.6	38.7	47	3022	3024	445	310	560	21.4	24.7	144	22.4	7.19	13.4	3	0.38	21
107	25.4	14120	1927	14.3	51.3	27.6	38.7	47	3022	3024	445	310	560	21.4	24.7	144	22.4	7.19	14	3	0.33	27
107	25.4	14120	1927	14.3	51.3	27.6	38.7	47	3022	3024	445	310	560	21.4	24.7	144	22.4	7.19	16.3	2	0.31	34
107	25.4	14120	1927	14.3	51.3	27.6	38.7	47	3022	3024	445	310	560	21.4	24.7	144	22.4	7.19	13.7	2	0.41	31
108	25.3	14118	1926	14.3	51.2	27.6	38.7	47	3022	3024	445	310	560	21.4	24.7	144	22.4	7.19	12.8	3	0.38	26
108	25.3	14118	1926	14.3	51.2	27.6	38.7	47	3022	3024	445	310	560	21.4	24.7	144	22.4	7.19	12.4	3	0.21	43
108	25.3	14118	1926	14.3	51.2	27.6	38.7	47	3022	3024	445	310	560	21.4	24.7	144	22.4	7.19	15.2	3	0.43	19
108	25.3	14118	1926	14.3	51.2	27.6	38.7	47	3022	3024	445	310	560	21.4	24.7	144	22.4	7.19	16.4	2	0.32	28
108	25.3	14118	1926	14.3	51.2	27.6	38.7	47	3022	3024	445	310	560	21.4	24.7	144	22.4	7.19	10.2	3	0.44	27
108	25.3	14118	1926	14.3	51.2	27.6	38.7	47	3022	3024	445	310	560	21.4	24.7	144	22.4	7.19	11	2	0.2	27
119	25	14102	1921	14.3	51.2	27.6	38.7	46.9	3019	3021	444	310	560	21.5	24.8	144	22.5	7.25	18.9	3	0.38	41
119	25	14102	1921	14.3	51.2	27.6	38.7	46.9	3019	3021	444	310	560	21.5	24.8	144	22.5	7.25	11.8	3	0.32	16
119	25	14102	1921	14.3	51.2	27.6	38.7	46.9	3019	3021	444	310	560	21.5	24.8	144	22.5	7.25	16	3	0.35	24
119	25	14102	1921	14.3	51.2	27.6	38.7	46.9	3019	3021	444	310	560	21.5	24.8	144	22.5	7.25	18.6	3	0.23	26
119	25	14102	1921	14.3	51.2	27.6	38.7	46.9	3019	3021	444	310	560	21.5	24.8	144	22.5	7.25	15.2	2	0.31	24
119	25	14102	1921	14.3	51.2	27.6	38.7	46.9	3019	3021	444	310	560	21.5	24.8	144	22.5	7.25	17	3	0.29	33
120	25	14100	1920	14.3	51.2	27.5	38.6	46.9	3018	3021	444	310	560	21.5	24.8	144	22.5	7.25	11.8	4	0.42	25

120	25	14100	1920	14.3	51.2	27.5	38.6	46.9	3018	3021	444	310	560	21.5	24.8	144	22.5	7.25	17.1	2	0.41	35
120	25	14100	1920	14.3	51.2	27.5	38.6	46.9	3018	3021	444	310	560	21.5	24.8	144	22.5	7.25	12.9	3	0.4	24
120	25	14100	1920	14.3	51.2	27.5	38.6	46.9	3018	3021	444	310	560	21.5	24.8	144	22.5	7.25	9.6	3	0.09	20
120	25	14100	1920	14.3	51.2	27.5	38.6	46.9	3018	3021	444	310	560	21.5	24.8	144	22.5	7.25	10.9	3	0.58	32
120	25	14100	1920	14.3	51.2	27.5	38.6	46.9	3018	3021	444	310	560	21.5	24.8	144	22.5	7.25	15	3	0.41	27
131	25.2	14364	2115	15.4	48.5	28.7	42.6	46.3	2987	2836	462	290	550	22	23.2	146	23.4	7.59	11	3	0.32	44
131	25.2	14364	2115	15.4	48.5	28.7	42.6	46.3	2987	2836	462	290	550	22	23.2	146	23.4	7.59	14	3	0.24	24
131	25.2	14364	2115	15.4	48.5	28.7	42.6	46.3	2987	2836	462	290	550	22	23.2	146	23.4	7.59	12.9	3	0.32	33
131	25.2	14364	2115	15.4	48.5	28.7	42.6	46.3	2987	2836	462	290	550	22	23.2	146	23.4	7.59	10.1	3	0.33	26
131	25.2	14364	2115	15.4	48.5	28.7	42.6	46.3	2987	2836	462	290	550	22	23.2	146	23.4	7.59	19	2	0.27	29
131	25.2	14364	2115	15.4	48.5	28.7	42.6	46.3	2987	2836	462	290	550	22	23.2	146	23.4	7.59	19	2	0.31	28
132	25.2	14362	2114	15.4	48.5	28.6	42.5	46.3	2987	2836	462	290	550	22	23.2	146	23.4	7.59	14.8	3	0.42	20
132	25.2	14362	2114	15.4	48.5	28.6	42.5	46.3	2987	2836	462	290	550	22	23.2	146	23.4	7.59	11.1	4	0.3	27
132	25.2	14362	2114	15.4	48.5	28.6	42.5	46.3	2987	2836	462	290	550	22	23.2	146	23.4	7.59	11.2	4	0.26	32
132	25.2	14362	2114	15.4	48.5	28.6	42.5	46.3	2987	2836	462	290	550	22	23.2	146	23.4	7.59	13.7	3	0.18	29
132	25.2	14362	2114	15.4	48.5	28.6	42.5	46.3	2987	2836	462	290	550	22	23.2	146	23.4	7.59	13.4	3	0.13	27
132	25.2	14362	2114	15.4	48.5	28.6	42.5	46.3	2987	2836	462	290	550	22	23.2	146	23.4	7.59	8.2	3	0.34	41
133	25.1	14361	2114	15.4	48.5	28.6	42.5	46.3	2987	2836	462	290	550	22	23.2	146	23.4	7.6	6.4	3	0.27	34
133	25.1	14361	2114	15.4	48.5	28.6	42.5	46.3	2987	2836	462	290	550	22	23.2	146	23.4	7.6	8.4	2	0.49	34
133	25.1	14361	2114	15.4	48.5	28.6	42.5	46.3	2987	2836	462	290	550	22	23.2	146	23.4	7.6	13.6	3	0.28	35
133	25.1	14361	2114	15.4	48.5	28.6	42.5	46.3	2987	2836	462	290	550	22	23.2	146	23.4	7.6	14	2	0.35	34
133	25.1	14361	2114	15.4	48.5	28.6	42.5	46.3	2987	2836	462	290	550	22	23.2	146	23.4	7.6	12.3	2	0.4	41
133	25.1	14361	2114	15.4	48.5	28.6	42.5	46.3	2987	2836	462	290	550	22	23.2	146	23.4	7.6	16.7	2	0.37	20
134	25.1	14359	2113	15.4	48.5	28.6	42.5	46.3	2986	2835	462	290	550	22	23.2	146	23.4	7.6	12.2	2	0.24	34
134	25.1	14359	2113	15.4	48.5	28.6	42.5	46.3	2986	2835	462	290	550	22	23.2	146	23.4	7.6	13.6	3	0.34	32
134	25.1	14359	2113	15.4	48.5	28.6	42.5	46.3	2986	2835	462	290	550	22	23.2	146	23.4	7.6	17.9	3	0.2	36
134	25.1	14359	2113	15.4	48.5	28.6	42.5	46.3	2986	2835	462	290	550	22	23.2	146	23.4	7.6	9.2	3	0.23	26
134	25.1	14359	2113	15.4	48.5	28.6	42.5	46.3	2986	2835	462	290	550	22	23.2	146	23.4	7.6	11.3	4	0.4	40
134	25.1	14359	2113	15.4	48.5	28.6	42.5	46.3	2986	2835	462	290	550	22	23.2	146	23.4	7.6	8.4	3	0.45	37
145	24.5	14903	2088	14.6	50.5	30.9	42	43	2759	2953	499	270	510	23.1	22.2	164	25.8	8.22	13.7	2	0.6	40
145	24.5	14903	2088	14.6	50.5	30.9	42	43	2759	2953	499	270	510	23.1	22.2	164	25.8	8.22	8.2	2	0.36	32
145	24.5	14903	2088	14.6	50.5	30.9	42	43	2759	2953	499	270	510	23.1	22.2	164	25.8	8.22	19.9	5	0.27	26

145	24.5	14903	2088	14.6	50.5	30.9	42	43	2759	2953	499	270	510	23.1	22.2	164	25.8	8.22	11.7	2	0.38	42
145	24.5	14903	2088	14.6	50.5	30.9	42	43	2759	2953	499	270	510	23.1	22.2	164	25.8	8.22	9.7	3	0.26	31
145	24.5	14903	2088	14.6	50.5	30.9	42	43	2759	2953	499	270	510	23.1	22.2	164	25.8	8.22	11.9	3	0.39	29
157	24.1	14885	2082	14.5	50.4	30.8	41.9	42.9	2756	2950	498	270	520	23.2	22.3	164	25.9	8.28	7.6	3	0.43	32
157	24.1	14885	2082	14.5	50.4	30.8	41.9	42.9	2756	2950	498	270	520	23.2	22.3	164	25.9	8.28	14	3	0.42	28
157	24.1	14885	2082	14.5	50.4	30.8	41.9	42.9	2756	2950	498	270	520	23.2	22.3	164	25.9	8.28	14.1	4	0.33	29
157	24.1	14885	2082	14.5	50.4	30.8	41.9	42.9	2756	2950	498	270	520	23.2	22.3	164	25.9	8.28	19	1	0.4	36
157	24.1	14885	2082	14.5	50.4	30.8	41.9	42.9	2756	2950	498	270	520	23.2	22.3	164	25.9	8.28	14.3	3	0.43	32
157	24.1	14885	2082	14.5	50.4	30.8	41.9	42.9	2756	2950	498	270	520	23.2	22.3	164	25.9	8.28	13	3	0.31	46
169	23.8	14867	2076	14.5	50.3	30.8	41.9	42.8	2753	2946	497	270	520	23.3	22.4	164	25.9	8.34	5.3	3	0.29	25
169	23.8	14867	2076	14.5	50.3	30.8	41.9	42.8	2753	2946	497	270	520	23.3	22.4	164	25.9	8.34	7.8	3	0.15	41
169	23.8	14867	2076	14.5	50.3	30.8	41.9	42.8	2753	2946	497	270	520	23.3	22.4	164	25.9	8.34	15.7	3	0.18	18
169	23.8	14867	2076	14.5	50.3	30.8	41.9	42.8	2753	2946	497	270	520	23.3	22.4	164	25.9	8.34	15.9	4	0.29	17
169	23.8	14867	2076	14.5	50.3	30.8	41.9	42.8	2753	2946	497	270	520	23.3	22.4	164	25.9	8.34	9.7	4	0.46	35
169	23.8	14867	2076	14.5	50.3	30.8	41.9	42.8	2753	2946	497	270	520	23.3	22.4	164	25.9	8.34	15.2	3	0.38	26
227	22.9	13660	1887	14.5	55.1	28.8	38.2	42.8	2596	2960	470	270	500	23.6	23.8	162	26	8.7	14.5	3	0.34	24
227	22.9	13660	1887	14.5	55.1	28.8	38.2	42.8	2596	2960	470	270	500	23.6	23.8	162	26	8.7	9.8	3	0.19	28
227	22.9	13660	1887	14.5	55.1	28.8	38.2	42.8	2596	2960	470	270	500	23.6	23.8	162	26	8.7	8.6	3	0.44	30
227	22.9	13660	1887	14.5	55.1	28.8	38.2	42.8	2596	2960	470	270	500	23.6	23.8	162	26	8.7	9.7	2	0.34	33
227	22.9	13660	1887	14.5	55.1	28.8	38.2	42.8	2596	2960	470	270	500	23.6	23.8	162	26	8.7	12.6	3	0.25	38
227	22.9	13660	1887	14.5	55.1	28.8	38.2	42.8	2596	2960	470	270	500	23.6	23.8	162	26	8.7	10	3	0.36	28
228	22.8	13658	1886	14.5	55.1	28.8	38.2	42.8	2596	2960	470	270	500	23.7	23.8	162	26	8.7	13.5	3	0.39	24
228	22.8	13658	1886	14.5	55.1	28.8	38.2	42.8	2596	2960	470	270	500	23.7	23.8	162	26	8.7	10.4	3	0.32	23
228	22.8	13658	1886	14.5	55.1	28.8	38.2	42.8	2596	2960	470	270	500	23.7	23.8	162	26	8.7	9.4	3	0.32	19
228	22.8	13658	1886	14.5	55.1	28.8	38.2	42.8	2596	2960	470	270	500	23.7	23.8	162	26	8.7	12.1	3	0.36	40
228	22.8	13658	1886	14.5	55.1	28.8	38.2	42.8	2596	2960	470	270	500	23.7	23.8	162	26	8.7	15	3	0.35	30
228	22.8	13658	1886	14.5	55.1	28.8	38.2	42.8	2596	2960	470	270	500	23.7	23.8	162	26	8.7	13.5	3	0.34	34
251	22.2	13624	1875	14.4	54.9	28.6	38	42.6	2590	2954	468	270	500	23.9	24	162	26.1	8.82	16.4	3	0.31	36
251	22.2	13624	1875	14.4	54.9	28.6	38	42.6	2590	2954	468	270	500	23.9	24	162	26.1	8.82	19.2	3	0.06	28
251	22.2	13624	1875	14.4	54.9	28.6	38	42.6	2590	2954	468	270	500	23.9	24	162	26.1	8.82	12.9	2	0.4	15
251	22.2	13624	1875	14.4	54.9	28.6	38	42.6	2590	2954	468	270	500	23.9	24	162	26.1	8.82	4.8	3	0.35	35
251	22.2	13624	1875	14.4	54.9	28.6	38	42.6	2590	2954	468	270	500	23.9	24	162	26.1	8.82	12.7	2	0.17	27

251	22.2	13624	1875	14.4	54.9	28.6	38	42.6	2590	2954	468	270	500	23.9	24	162	26.1	8.82	12.7	4	0.31	33
252	22.1	13622	1874	14.3	54.9	28.6	38	42.6	2589	2953	468	270	500	23.9	24.1	162	26.1	8.82	12.7	3	0.25	38
252	22.1	13622	1874	14.3	54.9	28.6	38	42.6	2589	2953	468	270	500	23.9	24.1	162	26.1	8.82	13.2	3	0.4	33
252	22.1	13622	1874	14.3	54.9	28.6	38	42.6	2589	2953	468	270	500	23.9	24.1	162	26.1	8.82	12	3	0.33	38
252	22.1	13622	1874	14.3	54.9	28.6	38	42.6	2589	2953	468	270	500	23.9	24.1	162	26.1	8.82	17.9	3	0.48	14
252	22.1	13622	1874	14.3	54.9	28.6	38	42.6	2589	2953	468	270	500	23.9	24.1	162	26.1	8.82	13.9	2	0.25	31
252	22.1	13622	1874	14.3	54.9	28.6	38	42.6	2589	2953	468	270	500	23.9	24.1	162	26.1	8.82	10.6	3	0.34	25
143	24	13086	1829	14.7	51	30.1	36.9	49	2732	2833	485	310	560	21.3	25.3	150	23.7	7.72	9.6	3	0.31	31
143	24	13086	1829	14.7	51	30.1	36.9	49	2732	2833	485	310	560	21.3	25.3	150	23.7	7.72	17.3	3	0.25	33
143	24	13086	1829	14.7	51	30.1	36.9	49	2732	2833	485	310	560	21.3	25.3	150	23.7	7.72	11.5	2	0.22	25
143	24	13086	1829	14.7	51	30.1	36.9	49	2732	2833	485	310	560	21.3	25.3	150	23.7	7.72	15	3	0.38	34
143	24	13086	1829	14.7	51	30.1	36.9	49	2732	2833	485	310	560	21.3	25.3	150	23.7	7.72	14.6	4	0.3	17
143	24	13086	1829	14.7	51	30.1	36.9	49	2732	2833	485	310	560	21.3	25.3	150	23.7	7.72	10.5	3	0.26	39
144	24	13084	1828	14.7	51	30.1	36.9	49	2732	2832	485	310	560	21.3	25.3	150	23.7	7.72	10.3	3	0.42	27
144	24	13084	1828	14.7	51	30.1	36.9	49	2732	2832	485	310	560	21.3	25.3	150	23.7	7.72	13.6	4	0.39	32
144	24	13084	1828	14.7	51	30.1	36.9	49	2732	2832	485	310	560	21.3	25.3	150	23.7	7.72	9.7	3	0.39	37
144	24	13084	1828	14.7	51	30.1	36.9	49	2732	2832	485	310	560	21.3	25.3	150	23.7	7.72	11.5	3	0.34	30
144	24	13084	1828	14.7	51	30.1	36.9	49	2732	2832	485	310	560	21.3	25.3	150	23.7	7.72	14.5	3	0.32	30
144	24	13084	1828	14.7	51	30.1	36.9	49	2732	2832	485	310	560	21.3	25.3	150	23.7	7.72	15.9	3	0.49	23
155	23.6	13068	1823	14.7	50.9	30	36.8	48.9	2729	2829	484	310	560	21.4	25.4	150	23.8	7.78	15.1	4	0.5	31
155	23.6	13068	1823	14.7	50.9	30	36.8	48.9	2729	2829	484	310	560	21.4	25.4	150	23.8	7.78	13.7	3	0.22	35
155	23.6	13068	1823	14.7	50.9	30	36.8	48.9	2729	2829	484	310	560	21.4	25.4	150	23.8	7.78	5.5	3	0.37	39
155	23.6	13068	1823	14.7	50.9	30	36.8	48.9	2729	2829	484	310	560	21.4	25.4	150	23.8	7.78	9.2	2	0.28	31
155	23.6	13068	1823	14.7	50.9	30	36.8	48.9	2729	2829	484	310	560	21.4	25.4	150	23.8	7.78	8.7	2	0.32	29
155	23.6	13068	1823	14.7	50.9	30	36.8	48.9	2729	2829	484	310	560	21.4	25.4	150	23.8	7.78	12	3	0.24	32
156	23.6	13066	1822	14.7	50.9	30	36.8	48.9	2728	2829	484	310	560	21.4	25.4	150	23.8	7.78	13.8	2	0.19	28
156	23.6	13066	1822	14.7	50.9	30	36.8	48.9	2728	2829	484	310	560	21.4	25.4	150	23.8	7.78	17.4	2	0.44	26
156	23.6	13066	1822	14.7	50.9	30	36.8	48.9	2728	2829	484	310	560	21.4	25.4	150	23.8	7.78	5.4	2	0.33	35
156	23.6	13066	1822	14.7	50.9	30	36.8	48.9	2728	2829	484	310	560	21.4	25.4	150	23.8	7.78	13.4	3	0.26	39
156	23.6	13066	1822	14.7	50.9	30	36.8	48.9	2728	2829	484	310	560	21.4	25.4	150	23.8	7.78	7.4	2	0.38	30
156	23.6	13066	1822	14.7	50.9	30	36.8	48.9	2728	2829	484	310	560	21.4	25.4	150	23.8	7.78	12.9	3	0.28	20
166	21.6	13611	1897	14.5	48.2	28.7	38.3	48.4	2782	2947	479	310	560	20.5	25.3	143	22.7	7.48	5.3	3	0.31	29

166	21.6	13611	1897	14.5	48.2	28.7	38.3	48.4	2782	2947	479	310	560	20.5	25.3	143	22.7	7.48	16.3	3	0.31	41
166	21.6	13611	1897	14.5	48.2	28.7	38.3	48.4	2782	2947	479	310	560	20.5	25.3	143	22.7	7.48	7.6	2	0.09	43
166	21.6	13611	1897	14.5	48.2	28.7	38.3	48.4	2782	2947	479	310	560	20.5	25.3	143	22.7	7.48	12.9	4	0.42	29
166	21.6	13611	1897	14.5	48.2	28.7	38.3	48.4	2782	2947	479	310	560	20.5	25.3	143	22.7	7.48	13	3	0.33	14
166	21.6	13611	1897	14.5	48.2	28.7	38.3	48.4	2782	2947	479	310	560	20.5	25.3	143	22.7	7.48	15.2	3	0.24	30
167	21.6	13610	1897	14.5	48.2	28.7	38.3	48.3	2781	2947	479	310	560	20.5	25.3	143	22.7	7.49	11.2	4	0.49	31
167	21.6	13610	1897	14.5	48.2	28.7	38.3	48.3	2781	2947	479	310	560	20.5	25.3	143	22.7	7.49	14.7	3	0.35	25
167	21.6	13610	1897	14.5	48.2	28.7	38.3	48.3	2781	2947	479	310	560	20.5	25.3	143	22.7	7.49	16.2	3	0.33	30
167	21.6	13610	1897	14.5	48.2	28.7	38.3	48.3	2781	2947	479	310	560	20.5	25.3	143	22.7	7.49	13.4	3	0.34	19
167	21.6	13610	1897	14.5	48.2	28.7	38.3	48.3	2781	2947	479	310	560	20.5	25.3	143	22.7	7.49	10.2	2	0.28	24
167	21.6	13610	1897	14.5	48.2	28.7	38.3	48.3	2781	2947	479	310	560	20.5	25.3	143	22.7	7.49	18.3	2	0.2	42
253	19	13481	1854	14	47.6	28	37.6	47.7	2757	2923	473	300	570	21.3	26	143	23.1	7.92	8.9	3	0.39	34
253	19	13481	1854	14	47.6	28	37.6	47.7	2757	2923	473	300	570	21.3	26	143	23.1	7.92	15.1	2	0.32	22
253	19	13481	1854	14	47.6	28	37.6	47.7	2757	2923	473	300	570	21.3	26	143	23.1	7.92	10.8	2	0.16	41
253	19	13481	1854	14	47.6	28	37.6	47.7	2757	2923	473	300	570	21.3	26	143	23.1	7.92	8.8	3	0.24	31
253	19	13481	1854	14	47.6	28	37.6	47.7	2757	2923	473	300	570	21.3	26	143	23.1	7.92	18.1	2	0.44	28
253	19	13481	1854	14	47.6	28	37.6	47.7	2757	2923	473	300	570	21.3	26	143	23.1	7.92	17.4	3	0.42	37
254	19	13479	1853	14	47.6	28	37.6	47.7	2757	2923	473	300	570	21.3	26.1	143	23.1	7.92	17	2	0.43	30
254	19	13479	1853	14	47.6	28	37.6	47.7	2757	2923	473	300	570	21.3	26.1	143	23.1	7.92	13	4	0.16	36
254	19	13479	1853	14	47.6	28	37.6	47.7	2757	2923	473	300	570	21.3	26.1	143	23.1	7.92	8.4	3	0.18	20
254	19	13479	1853	14	47.6	28	37.6	47.7	2757	2923	473	300	570	21.3	26.1	143	23.1	7.92	11.4	3	0.44	40
254	19	13479	1853	14	47.6	28	37.6	47.7	2757	2923	473	300	570	21.3	26.1	143	23.1	7.92	8.2	2	0.39	26
254	19	13479	1853	14	47.6	28	37.6	47.7	2757	2923	473	300	570	21.3	26.1	143	23.1	7.92	14.9	4	0.33	30
205	21.6	15093	2038	14.6	50.1	26.9	41.2	44.4	2939	3269	490	280	520	21.7	24.5	149	23.8	7.96	9.9	3	0.33	27
205	21.6	15093	2038	14.6	50.1	26.9	41.2	44.4	2939	3269	490	280	520	21.7	24.5	149	23.8	7.96	10.7	3	0.31	34
205	21.6	15093	2038	14.6	50.1	26.9	41.2	44.4	2939	3269	490	280	520	21.7	24.5	149	23.8	7.96	8.8	2	0.42	31
205	21.6	15093	2038	14.6	50.1	26.9	41.2	44.4	2939	3269	490	280	520	21.7	24.5	149	23.8	7.96	12.8	2	0.4	26
205	21.6	15093	2038	14.6	50.1	26.9	41.2	44.4	2939	3269	490	280	520	21.7	24.5	149	23.8	7.96	13.9	3	0.31	25
205	21.6	15093	2038	14.6	50.1	26.9	41.2	44.4	2939	3269	490	280	520	21.7	24.5	149	23.8	7.96	5.1	3	0.47	30
206	21.5	15091	2037	14.6	50	26.9	41.2	44.4	2938	3269	490	280	520	21.7	24.5	149	23.8	7.96	9.7	2	0.17	24
206	21.5	15091	2037	14.6	50	26.9	41.2	44.4	2938	3269	490	280	520	21.7	24.5	149	23.8	7.96	8.6	3	0.39	18
206	21.5	15091	2037	14.6	50	26.9	41.2	44.4	2938	3269	490	280	520	21.7	24.5	149	23.8	7.96	7.8	4	0.09	26

206	21.5	15091	2037	14.6	50	26.9	41.2	44.4	2938	3269	490	280	520	21.7	24.5	149	23.8	7.96	5.8	2	0.52	28
206	21.5	15091	2037	14.6	50	26.9	41.2	44.4	2938	3269	490	280	520	21.7	24.5	149	23.8	7.96	12.7	3	0.39	33
206	21.5	15091	2037	14.6	50	26.9	41.2	44.4	2938	3269	490	280	520	21.7	24.5	149	23.8	7.96	11.4	2	0.33	42
255	20.1	15018	2013	14.3	49.7	26.5	40.8	44	2925	3255	487	270	530	22.1	25	149	24.1	8.21	11.9	3	0.33	34
255	20.1	15018	2013	14.3	49.7	26.5	40.8	44	2925	3255	487	270	530	22.1	25	149	24.1	8.21	13.8	3	0.27	34
255	20.1	15018	2013	14.3	49.7	26.5	40.8	44	2925	3255	487	270	530	22.1	25	149	24.1	8.21	12.1	3	0.26	36
255	20.1	15018	2013	14.3	49.7	26.5	40.8	44	2925	3255	487	270	530	22.1	25	149	24.1	8.21	13.1	3	0.27	32
255	20.1	15018	2013	14.3	49.7	26.5	40.8	44	2925	3255	487	270	530	22.1	25	149	24.1	8.21	13.1	2	0.37	27
255	20.1	15018	2013	14.3	49.7	26.5	40.8	44	2925	3255	487	270	530	22.1	25	149	24.1	8.21	7.7	3	0.31	33
384	16.2	14824	1948	13.7	48.8	25.4	39.7	42.9	2888	3219	478	260	540	23.3	26.1	149	24.7	8.85	15.2	3	0.46	26
384	16.2	14824	1948	13.7	48.8	25.4	39.7	42.9	2888	3219	478	260	540	23.3	26.1	149	24.7	8.85	9.7	2	0.34	30
384	16.2	14824	1948	13.7	48.8	25.4	39.7	42.9	2888	3219	478	260	540	23.3	26.1	149	24.7	8.85	7.5	2	0.3	25
384	16.2	14824	1948	13.7	48.8	25.4	39.7	42.9	2888	3219	478	260	540	23.3	26.1	149	24.7	8.85	14.8	3	0.38	15
384	16.2	14824	1948	13.7	48.8	25.4	39.7	42.9	2888	3219	478	260	540	23.3	26.1	149	24.7	8.85	10.8	3	0.35	22
384	16.2	14824	1948	13.7	48.8	25.4	39.7	42.9	2888	3219	478	260	540	23.3	26.1	149	24.7	8.85	12.6	2	0.21	36
159	25.2	13482	1961	14.7	56.1	28.4	39.5	42.4	2811	2919	470	270	490	23.2	24.8	152	25.4	7.87	13.7	3	0.29	33
159	25.2	13482	1961	14.7	56.1	28.4	39.5	42.4	2811	2919	470	270	490	23.2	24.8	152	25.4	7.87	12.9	3	0.34	34
159	25.2	13482	1961	14.7	56.1	28.4	39.5	42.4	2811	2919	470	270	490	23.2	24.8	152	25.4	7.87	14.2	3	0.47	18
159	25.2	13482	1961	14.7	56.1	28.4	39.5	42.4	2811	2919	470	270	490	23.2	24.8	152	25.4	7.87	16.8	3	0.39	17
159	25.2	13482	1961	14.7	56.1	28.4	39.5	42.4	2811	2919	470	270	490	23.2	24.8	152	25.4	7.87	7.9	3	0.31	28
159	25.2	13482	1961	14.7	56.1	28.4	39.5	42.4	2811	2919	470	270	490	23.2	24.8	152	25.4	7.87	14.1	3	0.06	39
170	24.9	13465	1955	14.6	56	28.3	39.4	42.3	2808	2916	469	270	490	23.3	24.9	152	25.5	7.92	9.6	3	0.34	40
170	24.9	13465	1955	14.6	56	28.3	39.4	42.3	2808	2916	469	270	490	23.3	24.9	152	25.5	7.92	16.1	4	0.31	34
170	24.9	13465	1955	14.6	56	28.3	39.4	42.3	2808	2916	469	270	490	23.3	24.9	152	25.5	7.92	12.9	2	0.41	34
170	24.9	13465	1955	14.6	56	28.3	39.4	42.3	2808	2916	469	270	490	23.3	24.9	152	25.5	7.92	11.2	4	0.28	18
170	24.9	13465	1955	14.6	56	28.3	39.4	42.3	2808	2916	469	270	490	23.3	24.9	152	25.5	7.92	10.3	3	0.41	32
170	24.9	13465	1955	14.6	56	28.3	39.4	42.3	2808	2916	469	270	490	23.3	24.9	152	25.5	7.92	13.2	4	0.27	36
339	18.4	12932	1811	14.2	48.6	27.6	38.9	42.8	2817	2808	476	260	530	24.7	25.3	161	25.2	9.19	8.3	2	0.52	22
339	18.4	12932	1811	14.2	48.6	27.6	38.9	42.8	2817	2808	476	260	530	24.7	25.3	161	25.2	9.19	8.3	3	0.25	33
339	18.4	12932	1811	14.2	48.6	27.6	38.9	42.8	2817	2808	476	260	530	24.7	25.3	161	25.2	9.19	15.1	2	0.56	37
339	18.4	12932	1811	14.2	48.6	27.6	38.9	42.8	2817	2808	476	260	530	24.7	25.3	161	25.2	9.19	10.4	3	0.25	40
339	18.4	12932	1811	14.2	48.6	27.6	38.9	42.8	2817	2808	476	260	530	24.7	25.3	161	25.2	9.19	13.8	3	0.3	23

339	18.4	12932	1811	14.2	48.6	27.6	38.9	42.8	2817	2808	476	260	530	24.7	25.3	161	25.2	9.19	4	3	0.27	24
256	20.9	13056	1852	14.6	49.2	28.3	39.6	43.5	2840	2831	482	270	520	23.9	24.5	161	24.7	8.77	11.6	2	0.48	36
256	20.9	13056	1852	14.6	49.2	28.3	39.6	43.5	2840	2831	482	270	520	23.9	24.5	161	24.7	8.77	14.4	4	0.4	26
256	20.9	13056	1852	14.6	49.2	28.3	39.6	43.5	2840	2831	482	270	520	23.9	24.5	161	24.7	8.77	15.8	3	0.4	35
256	20.9	13056	1852	14.6	49.2	28.3	39.6	43.5	2840	2831	482	270	520	23.9	24.5	161	24.7	8.77	14.4	2	0.36	28
256	20.9	13056	1852	14.6	49.2	28.3	39.6	43.5	2840	2831	482	270	520	23.9	24.5	161	24.7	8.77	9.3	3	0.28	30
256	20.9	13056	1852	14.6	49.2	28.3	39.6	43.5	2840	2831	482	270	520	23.9	24.5	161	24.7	8.77	12.9	2	0.26	28
353	18	12911	1804	14.1	48.5	27.5	38.8	42.7	2813	2804	475	260	530	24.8	25.4	161	25.2	9.26	11.6	2	0.47	34
353	18	12911	1804	14.1	48.5	27.5	38.8	42.7	2813	2804	475	260	530	24.8	25.4	161	25.2	9.26	11.1	4	0.28	24
353	18	12911	1804	14.1	48.5	27.5	38.8	42.7	2813	2804	475	260	530	24.8	25.4	161	25.2	9.26	13.2	3	0.38	24
353	18	12911	1804	14.1	48.5	27.5	38.8	42.7	2813	2804	475	260	530	24.8	25.4	161	25.2	9.26	17	3	0.28	32
353	18	12911	1804	14.1	48.5	27.5	38.8	42.7	2813	2804	475	260	530	24.8	25.4	161	25.2	9.26	20.9	2	0.28	31
353	18	12911	1804	14.1	48.5	27.5	38.8	42.7	2813	2804	475	260	530	24.8	25.4	161	25.2	9.26	10.7	3	0.43	36
354	17.9	12909	1803	14.1	48.5	27.5	38.8	42.7	2813	2804	475	260	530	24.8	25.4	161	25.2	9.26	17.4	3	0.4	39
354	17.9	12909	1803	14.1	48.5	27.5	38.8	42.7	2813	2804	475	260	530	24.8	25.4	161	25.2	9.26	7	3	0.35	30
354	17.9	12909	1803	14.1	48.5	27.5	38.8	42.7	2813	2804	475	260	530	24.8	25.4	161	25.2	9.26	3.2	2	0.37	24
354	17.9	12909	1803	14.1	48.5	27.5	38.8	42.7	2813	2804	475	260	530	24.8	25.4	161	25.2	9.26	14.9	3	0.3	25
354	17.9	12909	1803	14.1	48.5	27.5	38.8	42.7	2813	2804	475	260	530	24.8	25.4	161	25.2	9.26	8.3	4	0.31	35
354	17.9	12909	1803	14.1	48.5	27.5	38.8	42.7	2813	2804	475	260	530	24.8	25.4	161	25.2	9.26	12.6	3	0.33	26
386	17.5	13001	2007	13.2	47.2	29	38.1	43.4	2944	2825	492	260	580	23.5	26.6	153	25.9	9.07	14	3	0.39	35
386	17.5	13001	2007	13.2	47.2	29	38.1	43.4	2944	2825	492	260	580	23.5	26.6	153	25.9	9.07	8.1	4	0.43	29
386	17.5	13001	2007	13.2	47.2	29	38.1	43.4	2944	2825	492	260	580	23.5	26.6	153	25.9	9.07	10.1	4	0.26	25
386	17.5	13001	2007	13.2	47.2	29	38.1	43.4	2944	2825	492	260	580	23.5	26.6	153	25.9	9.07	6.6	3	0.32	37
386	17.5	13001	2007	13.2	47.2	29	38.1	43.4	2944	2825	492	260	580	23.5	26.6	153	25.9	9.07	13.5	3	0.36	31
386	17.5	13001	2007	13.2	47.2	29	38.1	43.4	2944	2825	492	260	580	23.5	26.6	153	25.9	9.07	8.3	4	0.41	34
419	16.6	12952	1991	13.1	47	28.8	37.9	43.1	2935	2816	490	260	590	23.8	26.9	153	26	9.24	7.2	2	0.38	40
419	16.6	12952	1991	13.1	47	28.8	37.9	43.1	2935	2816	490	260	590	23.8	26.9	153	26	9.24	12	1	0.3	36
419	16.6	12952	1991	13.1	47	28.8	37.9	43.1	2935	2816	490	260	590	23.8	26.9	153	26	9.24	10.8	2	0.46	31
419	16.6	12952	1991	13.1	47	28.8	37.9	43.1	2935	2816	490	260	590	23.8	26.9	153	26	9.24	8.2	2	0.47	23
419	16.6	12952	1991	13.1	47	28.8	37.9	43.1	2935	2816	490	260	590	23.8	26.9	153	26	9.24	12.7	3	0.27	34
419	16.6	12952	1991	13.1	47	28.8	37.9	43.1	2935	2816	490	260	590	23.8	26.9	153	26	9.24	15.9	3	0.43	29
420	16.5	12950	1990	13.1	47	28.7	37.8	43.1	2934	2816	489	260	590	23.8	26.9	153	26	9.24	13	2	0.34	20

420	16.5	12950	1990	13.1	47	28.7	37.8	43.1	2934	2816	489	260	590	23.8	26.9	153	26	9.24	11.5	2	0.3	33
420	16.5	12950	1990	13.1	47	28.7	37.8	43.1	2934	2816	489	260	590	23.8	26.9	153	26	9.24	10.5	4	0.42	38
420	16.5	12950	1990	13.1	47	28.7	37.8	43.1	2934	2816	489	260	590	23.8	26.9	153	26	9.24	9.7	3	0.37	37
420	16.5	12950	1990	13.1	47	28.7	37.8	43.1	2934	2816	489	260	590	23.8	26.9	153	26	9.24	8.5	3	0.43	27
420	16.5	12950	1990	13.1	47	28.7	37.8	43.1	2934	2816	489	260	590	23.8	26.9	153	26	9.24	10.6	3	0.35	35
111	27.5	15094	1905	15.2	49.7	29.7	41.5	48.3	2993	3265	506	310	550	20	25	156	23.8	7.84	18.1	2	0.04	34
111	27.5	15094	1905	15.2	49.7	29.7	41.5	48.3	2993	3265	506	310	550	20	25	156	23.8	7.84	11.9	3	0.39	22
111	27.5	15094	1905	15.2	49.7	29.7	41.5	48.3	2993	3265	506	310	550	20	25	156	23.8	7.84	14.2	3	0.37	41
111	27.5	15094	1905	15.2	49.7	29.7	41.5	48.3	2993	3265	506	310	550	20	25	156	23.8	7.84	12.8	3	0.26	39
111	27.5	15094	1905	15.2	49.7	29.7	41.5	48.3	2993	3265	506	310	550	20	25	156	23.8	7.84	10.4	3	0.32	23
111	27.5	15094	1905	15.2	49.7	29.7	41.5	48.3	2993	3265	506	310	550	20	25	156	23.8	7.84	13.1	3	0.3	33
112	27.4	15092	1904	15.2	49.7	29.7	41.5	48.3	2993	3265	506	310	550	20	25	156	23.8	7.84	12.6	2	0.33	28
112	27.4	15092	1904	15.2	49.7	29.7	41.5	48.3	2993	3265	506	310	550	20	25	156	23.8	7.84	9.8	2	0.36	36
112	27.4	15092	1904	15.2	49.7	29.7	41.5	48.3	2993	3265	506	310	550	20	25	156	23.8	7.84	14.7	3	0.23	28
112	27.4	15092	1904	15.2	49.7	29.7	41.5	48.3	2993	3265	506	310	550	20	25	156	23.8	7.84	14	3	0.38	26
112	27.4	15092	1904	15.2	49.7	29.7	41.5	48.3	2993	3265	506	310	550	20	25	156	23.8	7.84	13.4	3	0.34	28
112	27.4	15092	1904	15.2	49.7	29.7	41.5	48.3	2993	3265	506	310	550	20	25	156	23.8	7.84	13.2	3	0.42	32
123	27.1	15076	1899	15.1	49.6	29.6	41.4	48.2	2990	3262	505	310	550	20.1	25.1	156	23.9	7.9	4.8	1	0.48	27
123	27.1	15076	1899	15.1	49.6	29.6	41.4	48.2	2990	3262	505	310	550	20.1	25.1	156	23.9	7.9	7.5	3	0.31	36
123	27.1	15076	1899	15.1	49.6	29.6	41.4	48.2	2990	3262	505	310	550	20.1	25.1	156	23.9	7.9	6.2	3	0.31	20
123	27.1	15076	1899	15.1	49.6	29.6	41.4	48.2	2990	3262	505	310	550	20.1	25.1	156	23.9	7.9	15.8	2	0.39	23
123	27.1	15076	1899	15.1	49.6	29.6	41.4	48.2	2990	3262	505	310	550	20.1	25.1	156	23.9	7.9	12.4	3	0.41	37
123	27.1	15076	1899	15.1	49.6	29.6	41.4	48.2	2990	3262	505	310	550	20.1	25.1	156	23.9	7.9	9.3	2	0.22	24
124	27.1	15074	1898	15.1	49.6	29.6	41.4	48.2	2989	3261	505	310	550	20.1	25.1	156	23.9	7.9	4.5	2	0.35	33
124	27.1	15074	1898	15.1	49.6	29.6	41.4	48.2	2989	3261	505	310	550	20.1	25.1	156	23.9	7.9	12	2	0.33	19
124	27.1	15074	1898	15.1	49.6	29.6	41.4	48.2	2989	3261	505	310	550	20.1	25.1	156	23.9	7.9	11.6	3	0.18	35
124	27.1	15074	1898	15.1	49.6	29.6	41.4	48.2	2989	3261	505	310	550	20.1	25.1	156	23.9	7.9	18.1	3	0.33	38
124	27.1	15074	1898	15.1	49.6	29.6	41.4	48.2	2989	3261	505	310	550	20.1	25.1	156	23.9	7.9	9.3	2	0.2	25
124	27.1	15074	1898	15.1	49.6	29.6	41.4	48.2	2989	3261	505	310	550	20.1	25.1	156	23.9	7.9	11.7	4	0.48	37
136	23.4	14916	1852	15.7	55.7	30.1	39.3	45.8	2762	3228	466	290	510	21	25	164	25.3	8.31	16.3	3	0.32	47
136	23.4	14916	1852	15.7	55.7	30.1	39.3	45.8	2762	3228	466	290	510	21	25	164	25.3	8.31	14.9	4	0.39	28
136	23.4	14916	1852	15.7	55.7	30.1	39.3	45.8	2762	3228	466	290	510	21	25	164	25.3	8.31	13.4	3	0.17	42

136	23.4	14916	1852	15.7	55.7	30.1	39.3	45.8	2762	3228	466	290	510	21	25	164	25.3	8.31	11.1	2	0.32	30
136	23.4	14916	1852	15.7	55.7	30.1	39.3	45.8	2762	3228	466	290	510	21	25	164	25.3	8.31	10.9	3	0.4	29
136	23.4	14916	1852	15.7	55.7	30.1	39.3	45.8	2762	3228	466	290	510	21	25	164	25.3	8.31	13.5	3	0.35	33
403	15.4	14516	1719	14.3	53.9	28	37.2	43.7	2687	3153	448	270	540	23.4	27.4	164	26.6	9.65	15	3	0.25	25
403	15.4	14516	1719	14.3	53.9	28	37.2	43.7	2687	3153	448	270	540	23.4	27.4	164	26.6	9.65	14	3	0.35	40
403	15.4	14516	1719	14.3	53.9	28	37.2	43.7	2687	3153	448	270	540	23.4	27.4	164	26.6	9.65	10.1	3	0.39	42
403	15.4	14516	1719	14.3	53.9	28	37.2	43.7	2687	3153	448	270	540	23.4	27.4	164	26.6	9.65	12.4	3	0.3	29
403	15.4	14516	1719	14.3	53.9	28	37.2	43.7	2687	3153	448	270	540	23.4	27.4	164	26.6	9.65	9.4	3	0.45	36
403	15.4	14516	1719	14.3	53.9	28	37.2	43.7	2687	3153	448	270	540	23.4	27.4	164	26.6	9.65	14.2	3	0.44	31
404	15.3	14514	1718	14.3	53.9	28	37.2	43.7	2687	3153	448	270	540	23.4	27.4	164	26.6	9.65	8.2	2	0.5	29
404	15.3	14514	1718	14.3	53.9	28	37.2	43.7	2687	3153	448	270	540	23.4	27.4	164	26.6	9.65	12.2	3	0.3	32
404	15.3	14514	1718	14.3	53.9	28	37.2	43.7	2687	3153	448	270	540	23.4	27.4	164	26.6	9.65	16.5	3	0.35	30
404	15.3	14514	1718	14.3	53.9	28	37.2	43.7	2687	3153	448	270	540	23.4	27.4	164	26.6	9.65	14.1	3	0.52	30
404	15.3	14514	1718	14.3	53.9	28	37.2	43.7	2687	3153	448	270	540	23.4	27.4	164	26.6	9.65	12.3	3	0.33	24
404	15.3	14514	1718	14.3	53.9	28	37.2	43.7	2687	3153	448	270	540	23.4	27.4	164	26.6	9.65	15.8	3	0.35	27
307	17.7	13540	1787	14.7	54	28.1	35.5	45.4	2574	2938	431	280	510	24.2	24.8	162	25	9.1	10.4	4	0.29	29
307	17.7	13540	1787	14.7	54	28.1	35.5	45.4	2574	2938	431	280	510	24.2	24.8	162	25	9.1	13.1	4	0.32	21
307	17.7	13540	1787	14.7	54	28.1	35.5	45.4	2574	2938	431	280	510	24.2	24.8	162	25	9.1	8.8	3	0.41	28
307	17.7	13540	1787	14.7	54	28.1	35.5	45.4	2574	2938	431	280	510	24.2	24.8	162	25	9.1	10	3	0.27	26
307	17.7	13540	1787	14.7	54	28.1	35.5	45.4	2574	2938	431	280	510	24.2	24.8	162	25	9.1	18.8	3	0.52	35
307	17.7	13540	1787	14.7	54	28.1	35.5	45.4	2574	2938	431	280	510	24.2	24.8	162	25	9.1	6.8	3	0.47	26
308	17.6	13538	1786	14.7	54	28.1	35.5	45.4	2574	2938	431	280	510	24.2	24.8	162	25	9.1	10.5	2	0.36	28
308	17.6	13538	1786	14.7	54	28.1	35.5	45.4	2574	2938	431	280	510	24.2	24.8	162	25	9.1	8.2	3	0.45	38
308	17.6	13538	1786	14.7	54	28.1	35.5	45.4	2574	2938	431	280	510	24.2	24.8	162	25	9.1	18.8	3	0.39	35
308	17.6	13538	1786	14.7	54	28.1	35.5	45.4	2574	2938	431	280	510	24.2	24.8	162	25	9.1	12.2	3	0.18	21
308	17.6	13538	1786	14.7	54	28.1	35.5	45.4	2574	2938	431	280	510	24.2	24.8	162	25	9.1	10.9	2	0.39	32
308	17.6	13538	1786	14.7	54	28.1	35.5	45.4	2574	2938	431	280	510	24.2	24.8	162	25	9.1	4.9	3	0.3	34
388	15.2	13418	1746	14.3	53.4	27.5	34.9	44.7	2551	2915	425	270	510	24.9	25.5	162	25.4	9.5	8.8	3	0.34	28
388	15.2	13418	1746	14.3	53.4	27.5	34.9	44.7	2551	2915	425	270	510	24.9	25.5	162	25.4	9.5	13.5	3	0.45	29
388	15.2	13418	1746	14.3	53.4	27.5	34.9	44.7	2551	2915	425	270	510	24.9	25.5	162	25.4	9.5	19.2	3	0.28	36
388	15.2	13418	1746	14.3	53.4	27.5	34.9	44.7	2551	2915	425	270	510	24.9	25.5	162	25.4	9.5	14.2	2	0.41	42
388	15.2	13418	1746	14.3	53.4	27.5	34.9	44.7	2551	2915	425	270	510	24.9	25.5	162	25.4	9.5	13	2	0.25	31

388	15.2	13418	1746	14.3	53.4	27.5	34.9	44.7	2551	2915	425	270	510	24.9	25.5	162	25.4	9.5	14.1	2	0.16	36
395	15	13408	1743	14.2	53.4	27.4	34.8	44.7	2549	2913	425	270	510	25	25.6	162	25.4	9.54	9.5	2	0.24	37
395	15	13408	1743	14.2	53.4	27.4	34.8	44.7	2549	2913	425	270	510	25	25.6	162	25.4	9.54	10.6	3	0.36	35
395	15	13408	1743	14.2	53.4	27.4	34.8	44.7	2549	2913	425	270	510	25	25.6	162	25.4	9.54	14.2	2	0.31	29
395	15	13408	1743	14.2	53.4	27.4	34.8	44.7	2549	2913	425	270	510	25	25.6	162	25.4	9.54	10.7	4	0.35	20
395	15	13408	1743	14.2	53.4	27.4	34.8	44.7	2549	2913	425	270	510	25	25.6	162	25.4	9.54	13.1	2	0.32	31
395	15	13408	1743	14.2	53.4	27.4	34.8	44.7	2549	2913	425	270	510	25	25.6	162	25.4	9.54	14.3	2	0.33	39
347	16.8	12780	2007	13.3	49.6	28.4	36.8	47.4	2675	2776	447	290	530	23.3	24	150	25.7	8.74	17.9	3	0.29	39
347	16.8	12780	2007	13.3	49.6	28.4	36.8	47.4	2675	2776	447	290	530	23.3	24	150	25.7	8.74	12.9	3	0.32	27
347	16.8	12780	2007	13.3	49.6	28.4	36.8	47.4	2675	2776	447	290	530	23.3	24	150	25.7	8.74	18.6	3	0.29	31
347	16.8	12780	2007	13.3	49.6	28.4	36.8	47.4	2675	2776	447	290	530	23.3	24	150	25.7	8.74	9.5	2	0.39	28
347	16.8	12780	2007	13.3	49.6	28.4	36.8	47.4	2675	2776	447	290	530	23.3	24	150	25.7	8.74	13.6	2	0.37	34
347	16.8	12780	2007	13.3	49.6	28.4	36.8	47.4	2675	2776	447	290	530	23.3	24	150	25.7	8.74	10.1	3	0.42	11
348	16.7	12778	2006	13.3	49.6	28.4	36.8	47.4	2675	2775	447	290	530	23.3	24	150	25.7	8.74	17.2	3	0.37	26
348	16.7	12778	2006	13.3	49.6	28.4	36.8	47.4	2675	2775	447	290	530	23.3	24	150	25.7	8.74	9.4	2	0.21	40
348	16.7	12778	2006	13.3	49.6	28.4	36.8	47.4	2675	2775	447	290	530	23.3	24	150	25.7	8.74	8.8	3	0.33	35
348	16.7	12778	2006	13.3	49.6	28.4	36.8	47.4	2675	2775	447	290	530	23.3	24	150	25.7	8.74	8.8	2	0.32	25
348	16.7	12778	2006	13.3	49.6	28.4	36.8	47.4	2675	2775	447	290	530	23.3	24	150	25.7	8.74	15.1	3	0.3	32
348	16.7	12778	2006	13.3	49.6	28.4	36.8	47.4	2675	2775	447	290	530	23.3	24	150	25.7	8.74	12.8	3	0.26	31
409	14.9	12687	1976	13	49.1	27.9	36.3	46.9	2657	2758	443	290	540	23.9	24.6	150	26	9.05	14.5	2	0.45	25
409	14.9	12687	1976	13	49.1	27.9	36.3	46.9	2657	2758	443	290	540	23.9	24.6	150	26	9.05	8.6	3	0.32	34
409	14.9	12687	1976	13	49.1	27.9	36.3	46.9	2657	2758	443	290	540	23.9	24.6	150	26	9.05	5.7	3	0.2	33
409	14.9	12687	1976	13	49.1	27.9	36.3	46.9	2657	2758	443	290	540	23.9	24.6	150	26	9.05	6.5	3	0.28	20
409	14.9	12687	1976	13	49.1	27.9	36.3	46.9	2657	2758	443	290	540	23.9	24.6	150	26	9.05	14.3	2	0.35	30
409	14.9	12687	1976	13	49.1	27.9	36.3	46.9	2657	2758	443	290	540	23.9	24.6	150	26	9.05	17.7	3	0.42	24
410	14.9	12685	1975	13	49.1	27.9	36.3	46.9	2657	2758	443	290	540	23.9	24.6	150	26	9.05	14.5	3	0.43	33
410	14.9	12685	1975	13	49.1	27.9	36.3	46.9	2657	2758	443	290	540	23.9	24.6	150	26	9.05	6.5	3	0.38	34
410	14.9	12685	1975	13	49.1	27.9	36.3	46.9	2657	2758	443	290	540	23.9	24.6	150	26	9.05	11.2	2	0.29	41
410	14.9	12685	1975	13	49.1	27.9	36.3	46.9	2657	2758	443	290	540	23.9	24.6	150	26	9.05	6.8	3	0.51	30
410	14.9	12685	1975	13	49.1	27.9	36.3	46.9	2657	2758	443	290	540	23.9	24.6	150	26	9.05	20.4	2	0.25	29
410	14.9	12685	1975	13	49.1	27.9	36.3	46.9	2657	2758	443	290	540	23.9	24.6	150	26	9.05	8.3	3	0.34	40
304	21.4	13404	2008	12.7	47.3	28.5	40.4	47.3	2967	2909	502	290	570	24.1	24.5	143	26.6	8.17	10.1	3	0.48	29

304	21.4	13404	2008	12.7	47.3	28.5	40.4	47.3	2967	2909	502	290	570	24.1	24.5	143	26.6	8.17	13.9	4	0.44	28
304	21.4	13404	2008	12.7	47.3	28.5	40.4	47.3	2967	2909	502	290	570	24.1	24.5	143	26.6	8.17	12.5	3	0.2	28
304	21.4	13404	2008	12.7	47.3	28.5	40.4	47.3	2967	2909	502	290	570	24.1	24.5	143	26.6	8.17	12.7	3	0.24	45
304	21.4	13404	2008	12.7	47.3	28.5	40.4	47.3	2967	2909	502	290	570	24.1	24.5	143	26.6	8.17	11.9	3	0.38	34
304	21.4	13404	2008	12.7	47.3	28.5	40.4	47.3	2967	2909	502	290	570	24.1	24.5	143	26.6	8.17	12.3	3	0.55	25
318	21	13383	2001	12.7	47.2	28.4	40.3	47.1	2963	2905	501	290	570	24.3	24.6	143	26.7	8.24	5.7	3	0.31	30
318	21	13383	2001	12.7	47.2	28.4	40.3	47.1	2963	2905	501	290	570	24.3	24.6	143	26.7	8.24	14.8	3	0.18	38
318	21	13383	2001	12.7	47.2	28.4	40.3	47.1	2963	2905	501	290	570	24.3	24.6	143	26.7	8.24	13.1	3	0.4	39
318	21	13383	2001	12.7	47.2	28.4	40.3	47.1	2963	2905	501	290	570	24.3	24.6	143	26.7	8.24	14.3	2	0.47	41
318	21	13383	2001	12.7	47.2	28.4	40.3	47.1	2963	2905	501	290	570	24.3	24.6	143	26.7	8.24	12	1	0.19	25
318	21	13383	2001	12.7	47.2	28.4	40.3	47.1	2963	2905	501	290	570	24.3	24.6	143	26.7	8.24	11.9	3	0.46	33
401	18.5	13259	1960	12.3	46.6	27.7	39.6	46.5	2940	2881	496	280	580	25	25.4	143	27.1	8.66	5.9	3	0.34	29
401	18.5	13259	1960	12.3	46.6	27.7	39.6	46.5	2940	2881	496	280	580	25	25.4	143	27.1	8.66	12.7	3	0.33	22
401	18.5	13259	1960	12.3	46.6	27.7	39.6	46.5	2940	2881	496	280	580	25	25.4	143	27.1	8.66	14.5	2	0.11	22
401	18.5	13259	1960	12.3	46.6	27.7	39.6	46.5	2940	2881	496	280	580	25	25.4	143	27.1	8.66	10.7	3	0.36	38
401	18.5	13259	1960	12.3	46.6	27.7	39.6	46.5	2940	2881	496	280	580	25	25.4	143	27.1	8.66	17.7	2	0.24	32
401	18.5	13259	1960	12.3	46.6	27.7	39.6	46.5	2940	2881	496	280	580	25	25.4	143	27.1	8.66	11.7	2	0.16	29
402	18.5	13257	1959	12.2	46.6	27.7	39.6	46.5	2939	2881	495	280	580	25	25.4	143	27.1	8.66	6.7	4	0.21	41
402	18.5	13257	1959	12.2	46.6	27.7	39.6	46.5	2939	2881	495	280	580	25	25.4	143	27.1	8.66	13.5	3	0.12	35
402	18.5	13257	1959	12.2	46.6	27.7	39.6	46.5	2939	2881	495	280	580	25	25.4	143	27.1	8.66	18.5	2	0.29	39
402	18.5	13257	1959	12.2	46.6	27.7	39.6	46.5	2939	2881	495	280	580	25	25.4	143	27.1	8.66	13.8	3	0.45	22
402	18.5	13257	1959	12.2	46.6	27.7	39.6	46.5	2939	2881	495	280	580	25	25.4	143	27.1	8.66	12.5	3	0.19	27
402	18.5	13257	1959	12.2	46.6	27.7	39.6	46.5	2939	2881	495	280	580	25	25.4	143	27.1	8.66	9.6	3	0.47	31
139	26.1	13932	1931	14.2	50.5	30.7	39.7	44.9	2985	3015	457	290	520	21.7	25.5	149	25.5	7.63	12.9	3	0.25	27
139	26.1	13932	1931	14.2	50.5	30.7	39.7	44.9	2985	3015	457	290	520	21.7	25.5	149	25.5	7.63	5.1	2	0.3	41
139	26.1	13932	1931	14.2	50.5	30.7	39.7	44.9	2985	3015	457	290	520	21.7	25.5	149	25.5	7.63	16.7	4	0.33	29
139	26.1	13932	1931	14.2	50.5	30.7	39.7	44.9	2985	3015	457	290	520	21.7	25.5	149	25.5	7.63	11.2	3	0.39	26
139	26.1	13932	1931	14.2	50.5	30.7	39.7	44.9	2985	3015	457	290	520	21.7	25.5	149	25.5	7.63	14.3	2	0.3	41
139	26.1	13932	1931	14.2	50.5	30.7	39.7	44.9	2985	3015	457	290	520	21.7	25.5	149	25.5	7.63	14	2	0.4	30
140	26	13930	1930	14.2	50.5	30.7	39.7	44.9	2985	3015	457	290	520	21.7	25.5	149	25.5	7.63	15.3	3	0.32	37
140	26	13930	1930	14.2	50.5	30.7	39.7	44.9	2985	3015	457	290	520	21.7	25.5	149	25.5	7.63	10.7	3	0.33	21
140	26	13930	1930	14.2	50.5	30.7	39.7	44.9	2985	3015	457	290	520	21.7	25.5	149	25.5	7.63	14.7	2	0.39	25

140	26	13930	1930	14.2	50.5	30.7	39.7	44.9	2985	3015	457	290	520	21.7	25.5	149	25.5	7.63	10.2	4	0.4	38
140	26	13930	1930	14.2	50.5	30.7	39.7	44.9	2985	3015	457	290	520	21.7	25.5	149	25.5	7.63	7.7	3	0.56	26
140	26	13930	1930	14.2	50.5	30.7	39.7	44.9	2985	3015	457	290	520	21.7	25.5	149	25.5	7.63	13.2	3	0.2	30
151	25.7	13914	1925	14.1	50.4	30.6	39.6	44.8	2982	3012	456	280	530	21.8	25.6	149	25.6	7.69	15.1	4	0.45	22
151	25.7	13914	1925	14.1	50.4	30.6	39.6	44.8	2982	3012	456	280	530	21.8	25.6	149	25.6	7.69	8.2	3	0.3	42
151	25.7	13914	1925	14.1	50.4	30.6	39.6	44.8	2982	3012	456	280	530	21.8	25.6	149	25.6	7.69	13.6	2	0.3	40
151	25.7	13914	1925	14.1	50.4	30.6	39.6	44.8	2982	3012	456	280	530	21.8	25.6	149	25.6	7.69	9.5	2	0.28	30
151	25.7	13914	1925	14.1	50.4	30.6	39.6	44.8	2982	3012	456	280	530	21.8	25.6	149	25.6	7.69	10.6	3	0.43	36
151	25.7	13914	1925	14.1	50.4	30.6	39.6	44.8	2982	3012	456	280	530	21.8	25.6	149	25.6	7.69	6.8	3	0.27	42
152	25.7	13912	1924	14.1	50.4	30.6	39.6	44.8	2981	3012	456	280	530	21.8	25.6	149	25.6	7.69	14	2	0.23	24
152	25.7	13912	1924	14.1	50.4	30.6	39.6	44.8	2981	3012	456	280	530	21.8	25.6	149	25.6	7.69	12.8	3	0.39	25
152	25.7	13912	1924	14.1	50.4	30.6	39.6	44.8	2981	3012	456	280	530	21.8	25.6	149	25.6	7.69	10.5	4	0.42	40
152	25.7	13912	1924	14.1	50.4	30.6	39.6	44.8	2981	3012	456	280	530	21.8	25.6	149	25.6	7.69	7.5	3	0.35	19
152	25.7	13912	1924	14.1	50.4	30.6	39.6	44.8	2981	3012	456	280	530	21.8	25.6	149	25.6	7.69	12.1	3	0.27	31
152	25.7	13912	1924	14.1	50.4	30.6	39.6	44.8	2981	3012	456	280	530	21.8	25.6	149	25.6	7.69	15	2	0.4	17
113	24.6	14811	1844	15.9	51.7	29.4	40.7	42.8	2768	3204	449	270	520	21.8	22.6	164	23.6	8.2	6.5	3	0.32	41
113	24.6	14811	1844	15.9	51.7	29.4	40.7	42.8	2768	3204	449	270	520	21.8	22.6	164	23.6	8.2	9.5	3	0.37	25
113	24.6	14811	1844	15.9	51.7	29.4	40.7	42.8	2768	3204	449	270	520	21.8	22.6	164	23.6	8.2	15.5	3	0.43	37
113	24.6	14811	1844	15.9	51.7	29.4	40.7	42.8	2768	3204	449	270	520	21.8	22.6	164	23.6	8.2	6.5	2	0.4	32
113	24.6	14811	1844	15.9	51.7	29.4	40.7	42.8	2768	3204	449	270	520	21.8	22.6	164	23.6	8.2	12.3	2	0.31	39
113	24.6	14811	1844	15.9	51.7	29.4	40.7	42.8	2768	3204	449	270	520	21.8	22.6	164	23.6	8.2	9.2	2	0.29	27
114	24.6	14809	1843	15.9	51.7	29.4	40.7	42.8	2768	3204	449	270	520	21.8	22.6	164	23.6	8.2	7.6	3	0.37	35
114	24.6	14809	1843	15.9	51.7	29.4	40.7	42.8	2768	3204	449	270	520	21.8	22.6	164	23.6	8.2	11	1	0.38	39
114	24.6	14809	1843	15.9	51.7	29.4	40.7	42.8	2768	3204	449	270	520	21.8	22.6	164	23.6	8.2	9.5	3	0.37	33
114	24.6	14809	1843	15.9	51.7	29.4	40.7	42.8	2768	3204	449	270	520	21.8	22.6	164	23.6	8.2	3.9	2	0.38	26
114	24.6	14809	1843	15.9	51.7	29.4	40.7	42.8	2768	3204	449	270	520	21.8	22.6	164	23.6	8.2	14.4	2	0.51	35
114	24.6	14809	1843	15.9	51.7	29.4	40.7	42.8	2768	3204	449	270	520	21.8	22.6	164	23.6	8.2	13.2	3	0.3	29
173	22.8	14721	1814	15.6	51.3	28.9	40.2	42.3	2752	3187	445	270	530	22.4	23.1	164	23.9	8.5	14.8	3	0.35	29
173	22.8	14721	1814	15.6	51.3	28.9	40.2	42.3	2752	3187	445	270	530	22.4	23.1	164	23.9	8.5	13.6	2	0.42	29
173	22.8	14721	1814	15.6	51.3	28.9	40.2	42.3	2752	3187	445	270	530	22.4	23.1	164	23.9	8.5	21	3	0.29	42
173	22.8	14721	1814	15.6	51.3	28.9	40.2	42.3	2752	3187	445	270	530	22.4	23.1	164	23.9	8.5	13	2	0.3	40
173	22.8	14721	1814	15.6	51.3	28.9	40.2	42.3	2752	3187	445	270	530	22.4	23.1	164	23.9	8.5	12.1	3	0.29	20

173	22.8	14721	1814	15.6	51.3	28.9	40.2	42.3	2752	3187	445	270	530	22.4	23.1	164	23.9	8.5	12.9	3	0.35	28
174	22.8	14719	1813	15.6	51.3	28.9	40.2	42.3	2751	3187	445	270	530	22.4	23.1	164	23.9	8.5	8	3	0.31	35
174	22.8	14719	1813	15.6	51.3	28.9	40.2	42.3	2751	3187	445	270	530	22.4	23.1	164	23.9	8.5	8.7	4	0.11	21
174	22.8	14719	1813	15.6	51.3	28.9	40.2	42.3	2751	3187	445	270	530	22.4	23.1	164	23.9	8.5	7.7	3	0.42	36
174	22.8	14719	1813	15.6	51.3	28.9	40.2	42.3	2751	3187	445	270	530	22.4	23.1	164	23.9	8.5	15	3	0.25	49
174	22.8	14719	1813	15.6	51.3	28.9	40.2	42.3	2751	3187	445	270	530	22.4	23.1	164	23.9	8.5	12.1	4	0.38	31
174	22.8	14719	1813	15.6	51.3	28.9	40.2	42.3	2751	3187	445	270	530	22.4	23.1	164	23.9	8.5	13.6	4	0.19	35
261	18.8	13889	1850	13.4	53.8	29.4	39.1	43.5	2587	3011	443	270	550	24.2	23.5	162	23.2	8.87	13.2	2	0.16	27
261	18.8	13889	1850	13.4	53.8	29.4	39.1	43.5	2587	3011	443	270	550	24.2	23.5	162	23.2	8.87	9.5	3	0.39	27
261	18.8	13889	1850	13.4	53.8	29.4	39.1	43.5	2587	3011	443	270	550	24.2	23.5	162	23.2	8.87	12.1	3	0.36	36
261	18.8	13889	1850	13.4	53.8	29.4	39.1	43.5	2587	3011	443	270	550	24.2	23.5	162	23.2	8.87	11	3	0.23	26
261	18.8	13889	1850	13.4	53.8	29.4	39.1	43.5	2587	3011	443	270	550	24.2	23.5	162	23.2	8.87	9.5	4	0.37	27
261	18.8	13889	1850	13.4	53.8	29.4	39.1	43.5	2587	3011	443	270	550	24.2	23.5	162	23.2	8.87	18.2	3	0.39	26
397	14.7	13685	1782	12.7	52.9	28.3	38	42.4	2549	2973	434	260	560	25.4	24.7	162	23.8	9.55	8.8	3	0.28	26
397	14.7	13685	1782	12.7	52.9	28.3	38	42.4	2549	2973	434	260	560	25.4	24.7	162	23.8	9.55	11.4	3	0.29	24
397	14.7	13685	1782	12.7	52.9	28.3	38	42.4	2549	2973	434	260	560	25.4	24.7	162	23.8	9.55	13.1	3	0.36	25
397	14.7	13685	1782	12.7	52.9	28.3	38	42.4	2549	2973	434	260	560	25.4	24.7	162	23.8	9.55	4.3	3	0.26	32
397	14.7	13685	1782	12.7	52.9	28.3	38	42.4	2549	2973	434	260	560	25.4	24.7	162	23.8	9.55	16.4	2	0.26	33
397	14.7	13685	1782	12.7	52.9	28.3	38	42.4	2549	2973	434	260	560	25.4	24.7	162	23.8	9.55	13.6	2	0.24	39
315	17.2	13808	1823	13.1	53.4	29	38.7	43	2572	2996	440	270	550	24.6	24	162	23.4	9.14	7.1	2	0.39	26
315	17.2	13808	1823	13.1	53.4	29	38.7	43	2572	2996	440	270	550	24.6	24	162	23.4	9.14	16	2	0.27	32
315	17.2	13808	1823	13.1	53.4	29	38.7	43	2572	2996	440	270	550	24.6	24	162	23.4	9.14	20.4	3	0.26	27
315	17.2	13808	1823	13.1	53.4	29	38.7	43	2572	2996	440	270	550	24.6	24	162	23.4	9.14	17	2	0.22	33
315	17.2	13808	1823	13.1	53.4	29	38.7	43	2572	2996	440	270	550	24.6	24	162	23.4	9.14	15.8	3	0.25	32
315	17.2	13808	1823	13.1	53.4	29	38.7	43	2572	2996	440	270	550	24.6	24	162	23.4	9.14	15	2	0.29	38
413	14.2	13661	1774	12.6	52.8	28.2	37.9	42.2	2544	2969	433	260	560	25.5	24.8	162	23.9	9.63	14.9	2	0.09	29
413	14.2	13661	1774	12.6	52.8	28.2	37.9	42.2	2544	2969	433	260	560	25.5	24.8	162	23.9	9.63	16.7	3	0.4	18
413	14.2	13661	1774	12.6	52.8	28.2	37.9	42.2	2544	2969	433	260	560	25.5	24.8	162	23.9	9.63	13.5	3	0.36	24
413	14.2	13661	1774	12.6	52.8	28.2	37.9	42.2	2544	2969	433	260	560	25.5	24.8	162	23.9	9.63	13.5	2	0.36	34
413	14.2	13661	1774	12.6	52.8	28.2	37.9	42.2	2544	2969	433	260	560	25.5	24.8	162	23.9	9.63	10.4	4	0.41	36
413	14.2	13661	1774	12.6	52.8	28.2	37.9	42.2	2544	2969	433	260	560	25.5	24.8	162	23.9	9.63	7.9	2	0.26	36
418	15.2	13933	1811	12.3	50.1	29.4	39.1	46.8	2655	3028	490	290	560	25.4	25.1	164	24.9	9.09	12.4	3	0.4	37

418	15.2	13933	1811	12.3	50.1	29.4	39.1	46.8	2655	3028	490	290	560	25.4	25.1	164	24.9	9.09	15.1	3	0.32	30
418	15.2	13933	1811	12.3	50.1	29.4	39.1	46.8	2655	3028	490	290	560	25.4	25.1	164	24.9	9.09	3	2	0.35	33
418	15.2	13933	1811	12.3	50.1	29.4	39.1	46.8	2655	3028	490	290	560	25.4	25.1	164	24.9	9.09	11	3	0.27	34
418	15.2	13933	1811	12.3	50.1	29.4	39.1	46.8	2655	3028	490	290	560	25.4	25.1	164	24.9	9.09	16.5	4	0.26	42
418	15.2	13933	1811	12.3	50.1	29.4	39.1	46.8	2655	3028	490	290	560	25.4	25.1	164	24.9	9.09	12.1	3	0.43	42
455	14.1	13878	1793	12.1	49.9	29.1	38.8	46.5	2645	3018	487	280	560	25.7	25.4	164	25.1	9.28	8	3	0.32	43
455	14.1	13878	1793	12.1	49.9	29.1	38.8	46.5	2645	3018	487	280	560	25.7	25.4	164	25.1	9.28	9	4	0.38	22
455	14.1	13878	1793	12.1	49.9	29.1	38.8	46.5	2645	3018	487	280	560	25.7	25.4	164	25.1	9.28	13	4	0.29	40
455	14.1	13878	1793	12.1	49.9	29.1	38.8	46.5	2645	3018	487	280	560	25.7	25.4	164	25.1	9.28	8.5	3	0.31	30
455	14.1	13878	1793	12.1	49.9	29.1	38.8	46.5	2645	3018	487	280	560	25.7	25.4	164	25.1	9.28	11.2	3	0.22	29
455	14.1	13878	1793	12.1	49.9	29.1	38.8	46.5	2645	3018	487	280	560	25.7	25.4	164	25.1	9.28	9.3	2	0.31	27
456	14	13876	1792	12.1	49.9	29.1	38.8	46.5	2644	3017	487	280	560	25.7	25.4	164	25.1	9.28	8.9	3	0.28	30
456	14	13876	1792	12.1	49.9	29.1	38.8	46.5	2644	3017	487	280	560	25.7	25.4	164	25.1	9.28	12.5	3	0.24	41
456	14	13876	1792	12.1	49.9	29.1	38.8	46.5	2644	3017	487	280	560	25.7	25.4	164	25.1	9.28	7.2	4	0.3	28
456	14	13876	1792	12.1	49.9	29.1	38.8	46.5	2644	3017	487	280	560	25.7	25.4	164	25.1	9.28	15.6	3	0.32	33
456	14	13876	1792	12.1	49.9	29.1	38.8	46.5	2644	3017	487	280	560	25.7	25.4	164	25.1	9.28	16.7	3	0.29	33
456	14	13876	1792	12.1	49.9	29.1	38.8	46.5	2644	3017	487	280	560	25.7	25.4	164	25.1	9.28	11.2	3	0.32	34
460	13.9	13870	1790	12.1	49.8	29	38.7	46.5	2643	3016	487	280	560	25.7	25.5	164	25.1	9.3	7.8	4	0.32	21
460	13.9	13870	1790	12.1	49.8	29	38.7	46.5	2643	3016	487	280	560	25.7	25.5	164	25.1	9.3	14.5	3	0.29	43
460	13.9	13870	1790	12.1	49.8	29	38.7	46.5	2643	3016	487	280	560	25.7	25.5	164	25.1	9.3	6.3	3	0.36	38
460	13.9	13870	1790	12.1	49.8	29	38.7	46.5	2643	3016	487	280	560	25.7	25.5	164	25.1	9.3	13.9	3	0.26	37
460	13.9	13870	1790	12.1	49.8	29	38.7	46.5	2643	3016	487	280	560	25.7	25.5	164	25.1	9.3	12.4	2	0.34	35
460	13.9	13870	1790	12.1	49.8	29	38.7	46.5	2643	3016	487	280	560	25.7	25.5	164	25.1	9.3	8.4	3	0.37	20
175	23	14998	2053	13.7	52.9	31	39	48.3	2947	3247	502	310	550	21.6	25.6	162	26	7.53	11	3	0.35	34
175	23	14998	2053	13.7	52.9	31	39	48.3	2947	3247	502	310	550	21.6	25.6	162	26	7.53	18	2	0.37	41
175	23	14998	2053	13.7	52.9	31	39	48.3	2947	3247	502	310	550	21.6	25.6	162	26	7.53	16.5	3	0.3	25
175	23	14998	2053	13.7	52.9	31	39	48.3	2947	3247	502	310	550	21.6	25.6	162	26	7.53	17.6	3	0.22	25
175	23	14998	2053	13.7	52.9	31	39	48.3	2947	3247	502	310	550	21.6	25.6	162	26	7.53	7.1	3	0.43	27
175	23	14998	2053	13.7	52.9	31	39	48.3	2947	3247	502	310	550	21.6	25.6	162	26	7.53	13.5	3	0.28	26
209	22	14947	2036	13.5	52.6	30.7	38.7	48	2937	3238	499	300	550	21.9	25.9	162	26.1	7.7	7.3	3	0.21	27
209	22	14947	2036	13.5	52.6	30.7	38.7	48	2937	3238	499	300	550	21.9	25.9	162	26.1	7.7	8.4	3	0.43	23
209	22	14947	2036	13.5	52.6	30.7	38.7	48	2937	3238	499	300	550	21.9	25.9	162	26.1	7.7	11.2	2	0.36	45

209	22	14947	2036	13.5	52.6	30.7	38.7	48	2937	3238	499	300	550	21.9	25.9	162	26.1	7.7	13	3	0.34	34
209	22	14947	2036	13.5	52.6	30.7	38.7	48	2937	3238	499	300	550	21.9	25.9	162	26.1	7.7	14.9	3	0.3	30
209	22	14947	2036	13.5	52.6	30.7	38.7	48	2937	3238	499	300	550	21.9	25.9	162	26.1	7.7	6.1	3	0.33	19
210	22	14945	2035	13.5	52.6	30.7	38.7	48	2937	3237	499	300	550	21.9	25.9	162	26.1	7.7	6.3	3	0.52	37
210	22	14945	2035	13.5	52.6	30.7	38.7	48	2937	3237	499	300	550	21.9	25.9	162	26.1	7.7	10.5	3	0.26	38
210	22	14945	2035	13.5	52.6	30.7	38.7	48	2937	3237	499	300	550	21.9	25.9	162	26.1	7.7	14.2	3	0.3	33
210	22	14945	2035	13.5	52.6	30.7	38.7	48	2937	3237	499	300	550	21.9	25.9	162	26.1	7.7	17.5	3	0.36	33
210	22	14945	2035	13.5	52.6	30.7	38.7	48	2937	3237	499	300	550	21.9	25.9	162	26.1	7.7	11.1	3	0.19	39
210	22	14945	2035	13.5	52.6	30.7	38.7	48	2937	3237	499	300	550	21.9	25.9	162	26.1	7.7	8.7	3	0.37	40
217	21.8	14935	2032	13.5	52.6	30.7	38.7	47.9	2935	3235	499	300	550	22	25.9	162	26.2	7.74	12.1	2	0.39	33
217	21.8	14935	2032	13.5	52.6	30.7	38.7	47.9	2935	3235	499	300	550	22	25.9	162	26.2	7.74	11.9	3	0.34	26
217	21.8	14935	2032	13.5	52.6	30.7	38.7	47.9	2935	3235	499	300	550	22	25.9	162	26.2	7.74	15	2	0.43	15
217	21.8	14935	2032	13.5	52.6	30.7	38.7	47.9	2935	3235	499	300	550	22	25.9	162	26.2	7.74	12	3	0.13	28
217	21.8	14935	2032	13.5	52.6	30.7	38.7	47.9	2935	3235	499	300	550	22	25.9	162	26.2	7.74	13.9	2	0.18	20
217	21.8	14935	2032	13.5	52.6	30.7	38.7	47.9	2935	3235	499	300	550	22	25.9	162	26.2	7.74	15.6	3	0.42	27
218	23.4	14793	1931	15.3	55.2	28.3	40.3	44.3	2795	3205	461	280	530	21	25.7	150	25.9	8.02	17.8	3	0.26	27
218	23.4	14793	1931	15.3	55.2	28.3	40.3	44.3	2795	3205	461	280	530	21	25.7	150	25.9	8.02	10.4	3	0.37	34
218	23.4	14793	1931	15.3	55.2	28.3	40.3	44.3	2795	3205	461	280	530	21	25.7	150	25.9	8.02	7.6	2	0.37	32
218	23.4	14793	1931	15.3	55.2	28.3	40.3	44.3	2795	3205	461	280	530	21	25.7	150	25.9	8.02	7.2	3	0.28	43
218	23.4	14793	1931	15.3	55.2	28.3	40.3	44.3	2795	3205	461	280	530	21	25.7	150	25.9	8.02	15.8	3	0.32	33
218	23.4	14793	1931	15.3	55.2	28.3	40.3	44.3	2795	3205	461	280	530	21	25.7	150	25.9	8.02	14	3	0.38	32
329	20.1	14627	1876	14.7	54.4	27.4	39.4	43.4	2764	3174	453	270	540	22	26.7	150	26.5	8.58	14.1	2	0.37	36
329	20.1	14627	1876	14.7	54.4	27.4	39.4	43.4	2764	3174	453	270	540	22	26.7	150	26.5	8.58	9.4	3	0.32	35
329	20.1	14627	1876	14.7	54.4	27.4	39.4	43.4	2764	3174	453	270	540	22	26.7	150	26.5	8.58	16.2	2	0.47	36
329	20.1	14627	1876	14.7	54.4	27.4	39.4	43.4	2764	3174	453	270	540	22	26.7	150	26.5	8.58	13.9	4	0.35	28
329	20.1	14627	1876	14.7	54.4	27.4	39.4	43.4	2764	3174	453	270	540	22	26.7	150	26.5	8.58	16.6	3	0.16	30
329	20.1	14627	1876	14.7	54.4	27.4	39.4	43.4	2764	3174	453	270	540	22	26.7	150	26.5	8.58	14.8	3	0.43	30
330	20.1	14625	1875	14.7	54.4	27.4	39.4	43.4	2764	3174	453	270	540	22	26.7	150	26.5	8.58	17.4	3	0.42	19
330	20.1	14625	1875	14.7	54.4	27.4	39.4	43.4	2764	3174	453	270	540	22	26.7	150	26.5	8.58	12	3	0.25	24
330	20.1	14625	1875	14.7	54.4	27.4	39.4	43.4	2764	3174	453	270	540	22	26.7	150	26.5	8.58	17.2	2	0.4	37
330	20.1	14625	1875	14.7	54.4	27.4	39.4	43.4	2764	3174	453	270	540	22	26.7	150	26.5	8.58	10.3	4	0.39	25
330	20.1	14625	1875	14.7	54.4	27.4	39.4	43.4	2764	3174	453	270	540	22	26.7	150	26.5	8.58	15.3	4	0.35	32

330	20.1	14625	1875	14.7	54.4	27.4	39.4	43.4	2764	3174	453	270	540	22	26.7	150	26.5	8.58	2.8	3	0.07	17
358	19.2	14583	1861	14.6	54.2	27.1	39.1	43.1	2756	3166	451	260	540	22.2	27	150	26.6	8.72	5.9	4	0.47	22
358	19.2	14583	1861	14.6	54.2	27.1	39.1	43.1	2756	3166	451	260	540	22.2	27	150	26.6	8.72	18.7	4	0.41	40
358	19.2	14583	1861	14.6	54.2	27.1	39.1	43.1	2756	3166	451	260	540	22.2	27	150	26.6	8.72	11	2	0.27	25
358	19.2	14583	1861	14.6	54.2	27.1	39.1	43.1	2756	3166	451	260	540	22.2	27	150	26.6	8.72	13	2	0.28	36
358	19.2	14583	1861	14.6	54.2	27.1	39.1	43.1	2756	3166	451	260	540	22.2	27	150	26.6	8.72	14.2	4	0.26	32
358	19.2	14583	1861	14.6	54.2	27.1	39.1	43.1	2756	3166	451	260	540	22.2	27	150	26.6	8.72	10.6	2	0.45	25
463	14.7	13306	1849	13.9	52.9	24.8	39.9	40	2782	2894	420	240	570	24	26.2	143	25.3	9.81	8.4	3	0.25	31
463	14.7	13306	1849	13.9	52.9	24.8	39.9	40	2782	2894	420	240	570	24	26.2	143	25.3	9.81	12.2	3	0.38	33
463	14.7	13306	1849	13.9	52.9	24.8	39.9	40	2782	2894	420	240	570	24	26.2	143	25.3	9.81	9.7	3	0.48	23
463	14.7	13306	1849	13.9	52.9	24.8	39.9	40	2782	2894	420	240	570	24	26.2	143	25.3	9.81	7.8	3	0.42	32
463	14.7	13306	1849	13.9	52.9	24.8	39.9	40	2782	2894	420	240	570	24	26.2	143	25.3	9.81	11.7	2	0.31	30
463	14.7	13306	1849	13.9	52.9	24.8	39.9	40	2782	2894	420	240	570	24	26.2	143	25.3	9.81	10.4	2	0.5	26
464	14.6	13304	1848	13.9	52.9	24.8	39.9	40	2782	2894	420	240	570	24	26.2	143	25.3	9.81	9.8	2	0.21	24
464	14.6	13304	1848	13.9	52.9	24.8	39.9	40	2782	2894	420	240	570	24	26.2	143	25.3	9.81	6.2	2	0.35	34
464	14.6	13304	1848	13.9	52.9	24.8	39.9	40	2782	2894	420	240	570	24	26.2	143	25.3	9.81	10.6	3	0.4	35
464	14.6	13304	1848	13.9	52.9	24.8	39.9	40	2782	2894	420	240	570	24	26.2	143	25.3	9.81	2.6	3	0.26	27
464	14.6	13304	1848	13.9	52.9	24.8	39.9	40	2782	2894	420	240	570	24	26.2	143	25.3	9.81	12.2	3	0.41	27
464	14.6	13304	1848	13.9	52.9	24.8	39.9	40	2782	2894	420	240	570	24	26.2	143	25.3	9.81	10	3	0.41	40
101	25.5	13849	2030	15.7	55.5	27.7	42.8	42.9	2884	2996	445	270	540	20.7	22.9	143	23.5	8	8.6	3	0.16	24
101	25.5	13849	2030	15.7	55.5	27.7	42.8	42.9	2884	2996	445	270	540	20.7	22.9	143	23.5	8	10.7	3	0.35	15
101	25.5	13849	2030	15.7	55.5	27.7	42.8	42.9	2884	2996	445	270	540	20.7	22.9	143	23.5	8	5.6	4	0.42	32
101	25.5	13849	2030	15.7	55.5	27.7	42.8	42.9	2884	2996	445	270	540	20.7	22.9	143	23.5	8	17.1	2	0.23	33
101	25.5	13849	2030	15.7	55.5	27.7	42.8	42.9	2884	2996	445	270	540	20.7	22.9	143	23.5	8	14.6	4	0.27	26
101	25.5	13849	2030	15.7	55.5	27.7	42.8	42.9	2884	2996	445	270	540	20.7	22.9	143	23.5	8	13.1	2	0.33	35
102	25.5	13847	2029	15.7	55.5	27.7	42.8	42.9	2883	2995	445	270	540	20.7	22.9	143	23.5	8	14	3	0.35	24
102	25.5	13847	2029	15.7	55.5	27.7	42.8	42.9	2883	2995	445	270	540	20.7	22.9	143	23.5	8	16.8	3	0.28	28
102	25.5	13847	2029	15.7	55.5	27.7	42.8	42.9	2883	2995	445	270	540	20.7	22.9	143	23.5	8	7.9	3	0.26	22
102	25.5	13847	2029	15.7	55.5	27.7	42.8	42.9	2883	2995	445	270	540	20.7	22.9	143	23.5	8	17.9	2	0.26	23
102	25.5	13847	2029	15.7	55.5	27.7	42.8	42.9	2883	2995	445	270	540	20.7	22.9	143	23.5	8	11.6	3	0.4	39
102	25.5	13847	2029	15.7	55.5	27.7	42.8	42.9	2883	2995	445	270	540	20.7	22.9	143	23.5	8	13.9	4	0.39	29
125	25.4	13113	2118	14.4	51.1	28.7	42.2	44.5	2849	2838	462	280	560	22.9	22.9	149	22.5	7.77	5	2	0.36	29

125	25.4	13113	2118	14.4	51.1	28.7	42.2	44.5	2849	2838	462	280	560	22.9	22.9	149	22.5	7.77	7.2	1	0.28	34
125	25.4	13113	2118	14.4	51.1	28.7	42.2	44.5	2849	2838	462	280	560	22.9	22.9	149	22.5	7.77	8.9	3	0.07	27
125	25.4	13113	2118	14.4	51.1	28.7	42.2	44.5	2849	2838	462	280	560	22.9	22.9	149	22.5	7.77	11.8	3	0.26	34
125	25.4	13113	2118	14.4	51.1	28.7	42.2	44.5	2849	2838	462	280	560	22.9	22.9	149	22.5	7.77	14.9	2	0.39	23
125	25.4	13113	2118	14.4	51.1	28.7	42.2	44.5	2849	2838	462	280	560	22.9	22.9	149	22.5	7.77	14.3	3	0.32	27
126	25.3	13111	2117	14.4	51.1	28.7	42.2	44.5	2849	2838	462	280	560	22.9	22.9	149	22.5	7.77	12.1	3	0.31	34
126	25.3	13111	2117	14.4	51.1	28.7	42.2	44.5	2849	2838	462	280	560	22.9	22.9	149	22.5	7.77	13	3	0.35	34
126	25.3	13111	2117	14.4	51.1	28.7	42.2	44.5	2849	2838	462	280	560	22.9	22.9	149	22.5	7.77	14.2	3	0.36	30
126	25.3	13111	2117	14.4	51.1	28.7	42.2	44.5	2849	2838	462	280	560	22.9	22.9	149	22.5	7.77	6.2	2	0.37	34
126	25.3	13111	2117	14.4	51.1	28.7	42.2	44.5	2849	2838	462	280	560	22.9	22.9	149	22.5	7.77	11.7	4	0.27	30
126	25.3	13111	2117	14.4	51.1	28.7	42.2	44.5	2849	2838	462	280	560	22.9	22.9	149	22.5	7.77	7.9	1	0.28	39
137	25	13095	2112	14.3	51	28.6	42.1	44.4	2846	2834	462	280	560	23	23	149	22.5	7.83	12	3	0.29	27
137	25	13095	2112	14.3	51	28.6	42.1	44.4	2846	2834	462	280	560	23	23	149	22.5	7.83	11.5	2	0.52	23
137	25	13095	2112	14.3	51	28.6	42.1	44.4	2846	2834	462	280	560	23	23	149	22.5	7.83	10	4	0.36	38
137	25	13095	2112	14.3	51	28.6	42.1	44.4	2846	2834	462	280	560	23	23	149	22.5	7.83	14.4	3	0.34	41
137	25	13095	2112	14.3	51	28.6	42.1	44.4	2846	2834	462	280	560	23	23	149	22.5	7.83	15.8	2	0.32	35
137	25	13095	2112	14.3	51	28.6	42.1	44.4	2846	2834	462	280	560	23	23	149	22.5	7.83	10.6	3	0.38	32
138	25	13093	2111	14.3	51	28.6	42.1	44.4	2845	2834	462	280	560	23	23	149	22.5	7.83	7.9	3	0.23	26
138	25	13093	2111	14.3	51	28.6	42.1	44.4	2845	2834	462	280	560	23	23	149	22.5	7.83	12.3	3	0.43	26
138	25	13093	2111	14.3	51	28.6	42.1	44.4	2845	2834	462	280	560	23	23	149	22.5	7.83	18.4	3	0.33	25
138	25	13093	2111	14.3	51	28.6	42.1	44.4	2845	2834	462	280	560	23	23	149	22.5	7.83	11.9	3	0.27	26
138	25	13093	2111	14.3	51	28.6	42.1	44.4	2845	2834	462	280	560	23	23	149	22.5	7.83	6.3	1	0.32	30
138	25	13093	2111	14.3	51	28.6	42.1	44.4	2845	2834	462	280	560	23	23	149	22.5	7.83	14.5	4	0.28	16
149	26.1	13637	2086	13.5	48.4	31.8	38.8	42.5	2926	2952	470	310	550	22.1	25.3	164	23.5	8.03	13.6	2	0.45	32
149	26.1	13637	2086	13.5	48.4	31.8	38.8	42.5	2926	2952	470	310	550	22.1	25.3	164	23.5	8.03	10.4	3	0.28	33
149	26.1	13637	2086	13.5	48.4	31.8	38.8	42.5	2926	2952	470	310	550	22.1	25.3	164	23.5	8.03	6.3	3	0.31	30
149	26.1	13637	2086	13.5	48.4	31.8	38.8	42.5	2926	2952	470	310	550	22.1	25.3	164	23.5	8.03	15.3	4	0.35	41
149	26.1	13637	2086	13.5	48.4	31.8	38.8	42.5	2926	2952	470	310	550	22.1	25.3	164	23.5	8.03	15.5	2	0.15	24
149	26.1	13637	2086	13.5	48.4	31.8	38.8	42.5	2926	2952	470	310	550	22.1	25.3	164	23.5	8.03	10.7	3	0.26	26
150	26	13635	2085	13.5	48.4	31.8	38.8	42.5	2926	2952	470	310	560	22.2	25.3	164	23.5	8.03	11.9	2	0.24	42
150	26	13635	2085	13.5	48.4	31.8	38.8	42.5	2926	2952	470	310	560	22.2	25.3	164	23.5	8.03	9	3	0.32	11
150	26	13635	2085	13.5	48.4	31.8	38.8	42.5	2926	2952	470	310	560	22.2	25.3	164	23.5	8.03	15	3	0.22	21

150	26	13635	2085	13.5	48.4	31.8	38.8	42.5	2926	2952	470	310	560	22.2	25.3	164	23.5	8.03	9.5	3	0.29	38
150	26	13635	2085	13.5	48.4	31.8	38.8	42.5	2926	2952	470	310	560	22.2	25.3	164	23.5	8.03	11.9	4	0.32	40
150	26	13635	2085	13.5	48.4	31.8	38.8	42.5	2926	2952	470	310	560	22.2	25.3	164	23.5	8.03	10.9	2	0.24	33
176	25.2	13596	2072	13.4	48.2	31.6	38.6	42.3	2919	2944	468	300	560	22.4	25.6	164	23.7	8.16	6.7	4	0.33	21
176	25.2	13596	2072	13.4	48.2	31.6	38.6	42.3	2919	2944	468	300	560	22.4	25.6	164	23.7	8.16	14.7	2	0.36	31
176	25.2	13596	2072	13.4	48.2	31.6	38.6	42.3	2919	2944	468	300	560	22.4	25.6	164	23.7	8.16	9.3	3	0.57	39
176	25.2	13596	2072	13.4	48.2	31.6	38.6	42.3	2919	2944	468	300	560	22.4	25.6	164	23.7	8.16	10.5	3	0.45	34
176	25.2	13596	2072	13.4	48.2	31.6	38.6	42.3	2919	2944	468	300	560	22.4	25.6	164	23.7	8.16	17.9	2	0.35	34
176	25.2	13596	2072	13.4	48.2	31.6	38.6	42.3	2919	2944	468	300	560	22.4	25.6	164	23.7	8.16	5.4	3	0.29	32
201	24.5	13559	2060	13.3	48	31.4	38.4	42.1	2912	2937	467	300	560	22.6	25.8	164	23.8	8.29	13.8	3	0.23	25
201	24.5	13559	2060	13.3	48	31.4	38.4	42.1	2912	2937	467	300	560	22.6	25.8	164	23.8	8.29	13.4	3	0.38	36
201	24.5	13559	2060	13.3	48	31.4	38.4	42.1	2912	2937	467	300	560	22.6	25.8	164	23.8	8.29	11.3	3	0.27	31
201	24.5	13559	2060	13.3	48	31.4	38.4	42.1	2912	2937	467	300	560	22.6	25.8	164	23.8	8.29	8.8	2	0.21	29
201	24.5	13559	2060	13.3	48	31.4	38.4	42.1	2912	2937	467	300	560	22.6	25.8	164	23.8	8.29	17.6	3	0.32	22
201	24.5	13559	2060	13.3	48	31.4	38.4	42.1	2912	2937	467	300	560	22.6	25.8	164	23.8	8.29	11.4	3	0.37	35
343	20	14746	1829	13.3	49.1	26.7	35.3	42.8	2732	3200	485	270	530	23.7	26.9	162	26.3	8.93	17.9	3	0.23	46
343	20	14746	1829	13.3	49.1	26.7	35.3	42.8	2732	3200	485	270	530	23.7	26.9	162	26.3	8.93	10	3	0.14	26
343	20	14746	1829	13.3	49.1	26.7	35.3	42.8	2732	3200	485	270	530	23.7	26.9	162	26.3	8.93	13.6	2	0.37	30
343	20	14746	1829	13.3	49.1	26.7	35.3	42.8	2732	3200	485	270	530	23.7	26.9	162	26.3	8.93	5.7	2	0.27	31
343	20	14746	1829	13.3	49.1	26.7	35.3	42.8	2732	3200	485	270	530	23.7	26.9	162	26.3	8.93	11.1	3	0.48	35
343	20	14746	1829	13.3	49.1	26.7	35.3	42.8	2732	3200	485	270	530	23.7	26.9	162	26.3	8.93	9.4	3	0.47	48
101	27.2	15109	1950	14.5	50.8	28.6	37.2	44.7	2800	3268	502	300	510	21.5	24.7	162	25.1	7.72	12	3	0.36	21
101	27.2	15109	1950	14.5	50.8	28.6	37.2	44.7	2800	3268	502	300	510	21.5	24.7	162	25.1	7.72	11.5	2	0.3	42
101	27.2	15109	1950	14.5	50.8	28.6	37.2	44.7	2800	3268	502	300	510	21.5	24.7	162	25.1	7.72	13.4	2	0.33	37
101	27.2	15109	1950	14.5	50.8	28.6	37.2	44.7	2800	3268	502	300	510	21.5	24.7	162	25.1	7.72	13.1	3	0.41	19
101	27.2	15109	1950	14.5	50.8	28.6	37.2	44.7	2800	3268	502	300	510	21.5	24.7	162	25.1	7.72	9.1	3	0.33	31
101	27.2	15109	1950	14.5	50.8	28.6	37.2	44.7	2800	3268	502	300	510	21.5	24.7	162	25.1	7.72	9.6	3	0.39	31
103	27.2	15106	1949	14.5	50.8	28.6	37.2	44.7	2799	2965	502	300	510	21.5	24.7	162	25.1	7.73	17.7	3	0.34	27
103	27.2	15106	1949	14.5	50.8	28.6	37.2	44.7	2799	2965	502	300	510	21.5	24.7	162	25.1	7.73	15.9	3	0.35	37
103	27.2	15106	1949	14.5	50.8	28.6	37.2	44.7	2799	2965	502	300	510	21.5	24.7	162	25.1	7.73	10.6	4	0.41	40
103	27.2	15106	1949	14.5	50.8	28.6	37.2	44.7	2799	2965	502	300	510	21.5	24.7	162	25.1	7.73	17.5	2	0.18	22
103	27.2	15106	1949	14.5	50.8	28.6	37.2	44.7	2799	2965	502	300	510	21.5	24.7	162	25.1	7.73	8.1	3	0.37	35

103	27.2	15106	1949	14.5	50.8	28.6	37.2	44.7	2799	2965	502	300	510	21.5	24.7	162	25.1	7.73	15.7	2	0.4	25
129	26.4	15067	1936	14.4	50.6	28.4	37	44.5	2792	2958	500	290	510	21.8	24.9	162	25.3	7.86	11.1	3	0.28	38
129	26.4	15067	1936	14.4	50.6	28.4	37	44.5	2792	2958	500	290	510	21.8	24.9	162	25.3	7.86	11.2	2	0.22	30
129	26.4	15067	1936	14.4	50.6	28.4	37	44.5	2792	2958	500	290	510	21.8	24.9	162	25.3	7.86	10.5	3	0.38	39
129	26.4	15067	1936	14.4	50.6	28.4	37	44.5	2792	2958	500	290	510	21.8	24.9	162	25.3	7.86	11.7	2	0.23	33
129	26.4	15067	1936	14.4	50.6	28.4	37	44.5	2792	2958	500	290	510	21.8	24.9	162	25.3	7.86	11.9	3	0.35	31
129	26.4	15067	1936	14.4	50.6	28.4	37	44.5	2792	2958	500	290	510	21.8	24.9	162	25.3	7.86	18.6	2	0.35	37
130	23.8	13525	1835	13.6	55.8	27.8	38.6	48.2	2624	2957	476	300	490	22.4	23.2	150	24.1	8.07	8.5	3	0.39	30
130	23.8	13525	1835	13.6	55.8	27.8	38.6	48.2	2624	2957	476	300	490	22.4	23.2	150	24.1	8.07	19.4	3	0.32	33
130	23.8	13525	1835	13.6	55.8	27.8	38.6	48.2	2624	2957	476	300	490	22.4	23.2	150	24.1	8.07	12.2	4	0.39	35
130	23.8	13525	1835	13.6	55.8	27.8	38.6	48.2	2624	2957	476	300	490	22.4	23.2	150	24.1	8.07	12.3	4	0.37	15
130	23.8	13525	1835	13.6	55.8	27.8	38.6	48.2	2624	2957	476	300	490	22.4	23.2	150	24.1	8.07	22.6	4	0.32	30
130	23.8	13525	1835	13.6	55.8	27.8	38.6	48.2	2624	2957	476	300	490	22.4	23.2	150	24.1	8.07	11.4	3	0.39	31
141	23.5	13509	1830	13.6	55.7	27.7	38.5	48.1	2621	2954	476	300	490	22.5	23.3	150	24.2	8.13	6.3	3	0.35	12
141	23.5	13509	1830	13.6	55.7	27.7	38.5	48.1	2621	2954	476	300	490	22.5	23.3	150	24.2	8.13	11.2	3	0.32	22
141	23.5	13509	1830	13.6	55.7	27.7	38.5	48.1	2621	2954	476	300	490	22.5	23.3	150	24.2	8.13	17.1	3	0.4	32
141	23.5	13509	1830	13.6	55.7	27.7	38.5	48.1	2621	2954	476	300	490	22.5	23.3	150	24.2	8.13	15.3	2	0.32	35
141	23.5	13509	1830	13.6	55.7	27.7	38.5	48.1	2621	2954	476	300	490	22.5	23.3	150	24.2	8.13	13	3	0.46	27
141	23.5	13509	1830	13.6	55.7	27.7	38.5	48.1	2621	2954	476	300	490	22.5	23.3	150	24.2	8.13	7.1	3	0.26	27
142	23.5	13507	1829	13.5	55.7	27.7	38.5	48.1	2620	3196	476	300	490	22.5	23.3	150	24.2	8.13	7	4	0.41	18
142	23.5	13507	1829	13.5	55.7	27.7	38.5	48.1	2620	3196	476	300	490	22.5	23.3	150	24.2	8.13	13.5	2	0.23	33
142	23.5	13507	1829	13.5	55.7	27.7	38.5	48.1	2620	3196	476	300	490	22.5	23.3	150	24.2	8.13	16.5	2	0.3	34
142	23.5	13507	1829	13.5	55.7	27.7	38.5	48.1	2620	3196	476	300	490	22.5	23.3	150	24.2	8.13	12.8	3	0.41	32
142	23.5	13507	1829	13.5	55.7	27.7	38.5	48.1	2620	3196	476	300	490	22.5	23.3	150	24.2	8.13	12.8	4	0.38	33
142	23.5	13507	1829	13.5	55.7	27.7	38.5	48.1	2620	3196	476	300	490	22.5	23.3	150	24.2	8.13	9.8	3	0.43	31
153	23.1	13491	1824	13.5	55.6	27.6	38.4	48	2617	3193	475	300	490	22.6	23.4	150	24.2	8.19	7.9	2	0.2	32
153	23.1	13491	1824	13.5	55.6	27.6	38.4	48	2617	3193	475	300	490	22.6	23.4	150	24.2	8.19	16.6	2	0.3	29
153	23.1	13491	1824	13.5	55.6	27.6	38.4	48	2617	3193	475	300	490	22.6	23.4	150	24.2	8.19	10.8	3	0.17	21
153	23.1	13491	1824	13.5	55.6	27.6	38.4	48	2617	3193	475	300	490	22.6	23.4	150	24.2	8.19	8.8	3	0.27	36
153	23.1	13491	1824	13.5	55.6	27.6	38.4	48	2617	3193	475	300	490	22.6	23.4	150	24.2	8.19	5	3	0.36	26
153	23.1	13491	1824	13.5	55.6	27.6	38.4	48	2617	3193	475	300	490	22.6	23.4	150	24.2	8.19	10.3	3	0.34	27
154	25.3	13209	1903	14.1	55.1	27.9	42.8	45.7	2729	3193	441	290	510	21.6	22.3	143	24.7	7.84	17.4	3	0.4	33

154	25.3	13209	1903	14.1	55.1	27.9	42.8	45.7	2729	3193	441	290	510	21.6	22.3	143	24.7	7.84	11.3	4	0.24	28
154	25.3	13209	1903	14.1	55.1	27.9	42.8	45.7	2729	3193	441	290	510	21.6	22.3	143	24.7	7.84	13.9	2	0.36	39
154	25.3	13209	1903	14.1	55.1	27.9	42.8	45.7	2729	3193	441	290	510	21.6	22.3	143	24.7	7.84	8.1	4	0.26	29
154	25.3	13209	1903	14.1	55.1	27.9	42.8	45.7	2729	3193	441	290	510	21.6	22.3	143	24.7	7.84	9.4	2	0.37	32
154	25.3	13209	1903	14.1	55.1	27.9	42.8	45.7	2729	3193	441	290	510	21.6	22.3	143	24.7	7.84	13	4	0.33	35
127	26.2	13250	1917	14.2	55.3	28.1	43	45.9	2736	3200	443	300	510	21.3	22	143	24.6	7.71	13.7	3	0.24	43
127	26.2	13250	1917	14.2	55.3	28.1	43	45.9	2736	3200	443	300	510	21.3	22	143	24.6	7.71	11.3	3	0.32	23
127	26.2	13250	1917	14.2	55.3	28.1	43	45.9	2736	3200	443	300	510	21.3	22	143	24.6	7.71	10	2	0.48	36
127	26.2	13250	1917	14.2	55.3	28.1	43	45.9	2736	3200	443	300	510	21.3	22	143	24.6	7.71	4.1	3	0.39	21
127	26.2	13250	1917	14.2	55.3	28.1	43	45.9	2736	3200	443	300	510	21.3	22	143	24.6	7.71	10.3	3	0.37	34
127	26.2	13250	1917	14.2	55.3	28.1	43	45.9	2736	3200	443	300	510	21.3	22	143	24.6	7.71	12.4	3	0.3	27
225	23.2	13103	1868	13.7	54.6	27.3	42.2	45.1	2709	3021	436	290	520	22.2	22.9	143	25.1	8.2	14.7	3	0.37	27
225	23.2	13103	1868	13.7	54.6	27.3	42.2	45.1	2709	3021	436	290	520	22.2	22.9	143	25.1	8.2	10	3	0.26	31
225	23.2	13103	1868	13.7	54.6	27.3	42.2	45.1	2709	3021	436	290	520	22.2	22.9	143	25.1	8.2	12.9	3	0.24	33
225	23.2	13103	1868	13.7	54.6	27.3	42.2	45.1	2709	3021	436	290	520	22.2	22.9	143	25.1	8.2	11.8	3	0.4	35
225	23.2	13103	1868	13.7	54.6	27.3	42.2	45.1	2709	3021	436	290	520	22.2	22.9	143	25.1	8.2	12	2	0.14	26
225	23.2	13103	1868	13.7	54.6	27.3	42.2	45.1	2709	3021	436	290	520	22.2	22.9	143	25.1	8.2	15.2	3	0.23	27
239	22.8	13082	1861	13.7	54.5	27.2	42.1	45	2705	3018	435	290	520	22.4	23.1	143	25.1	8.27	11.1	3	0.33	26
239	22.8	13082	1861	13.7	54.5	27.2	42.1	45	2705	3018	435	290	520	22.4	23.1	143	25.1	8.27	16	3	0.31	47
239	22.8	13082	1861	13.7	54.5	27.2	42.1	45	2705	3018	435	290	520	22.4	23.1	143	25.1	8.27	9.3	2	0.37	30
239	22.8	13082	1861	13.7	54.5	27.2	42.1	45	2705	3018	435	290	520	22.4	23.1	143	25.1	8.27	17.9	5	0.36	35
239	22.8	13082	1861	13.7	54.5	27.2	42.1	45	2705	3018	435	290	520	22.4	23.1	143	25.1	8.27	13.8	4	0.56	27
239	22.8	13082	1861	13.7	54.5	27.2	42.1	45	2705	3018	435	290	520	22.4	23.1	143	25.1	8.27	8.5	2	0.42	20
240	21.4	13220	2060	15.2	50.3	30.8	37.3	45.9	2929	3017	454	290	570	21.2	23.9	149	24.9	7.85	10.7	2	0.32	19
240	21.4	13220	2060	15.2	50.3	30.8	37.3	45.9	2929	3017	454	290	570	21.2	23.9	149	24.9	7.85	10.9	4	0.17	43
240	21.4	13220	2060	15.2	50.3	30.8	37.3	45.9	2929	3017	454	290	570	21.2	23.9	149	24.9	7.85	17.6	3	0.31	19
240	21.4	13220	2060	15.2	50.3	30.8	37.3	45.9	2929	3017	454	290	570	21.2	23.9	149	24.9	7.85	12.1	3	0.31	33
240	21.4	13220	2060	15.2	50.3	30.8	37.3	45.9	2929	3017	454	290	570	21.2	23.9	149	24.9	7.85	15.9	3	0.42	45
240	21.4	13220	2060	15.2	50.3	30.8	37.3	45.9	2929	3017	454	290	570	21.2	23.9	149	24.9	7.85	13.9	2	0.34	21
121	24.9	13399	2120	15.8	51.2	31.7	38.2	46.9	2962	3051	463	310	560	20.1	22.9	149	24.3	7.26	15.6	3	0.33	23
121	24.9	13399	2120	15.8	51.2	31.7	38.2	46.9	2962	3051	463	310	560	20.1	22.9	149	24.3	7.26	10.4	3	0.24	34
121	24.9	13399	2120	15.8	51.2	31.7	38.2	46.9	2962	3051	463	310	560	20.1	22.9	149	24.3	7.26	16	2	0.11	32

121	24.9	13399	2120	15.8	51.2	31.7	38.2	46.9	2962	3051	463	310	560	20.1	22.9	149	24.3	7.26	15.5	3	0.42	34
121	24.9	13399	2120	15.8	51.2	31.7	38.2	46.9	2962	3051	463	310	560	20.1	22.9	149	24.3	7.26	12.1	3	0.42	28
121	24.9	13399	2120	15.8	51.2	31.7	38.2	46.9	2962	3051	463	310	560	20.1	22.9	149	24.3	7.26	11.6	4	0.23	25
216	22.1	13256	2072	15.3	50.5	31	37.5	46.1	2936	3084	456	300	570	20.9	23.7	149	24.8	7.73	11.1	4	0.18	33
216	22.1	13256	2072	15.3	50.5	31	37.5	46.1	2936	3084	456	300	570	20.9	23.7	149	24.8	7.73	19.1	3	0.24	26
216	22.1	13256	2072	15.3	50.5	31	37.5	46.1	2936	3084	456	300	570	20.9	23.7	149	24.8	7.73	18.2	3	0.26	24
216	22.1	13256	2072	15.3	50.5	31	37.5	46.1	2936	3084	456	300	570	20.9	23.7	149	24.8	7.73	15.6	3	0.33	20
216	22.1	13256	2072	15.3	50.5	31	37.5	46.1	2936	3084	456	300	570	20.9	23.7	149	24.8	7.73	7.3	2	0.37	33
216	22.1	13256	2072	15.3	50.5	31	37.5	46.1	2936	3084	456	300	570	20.9	23.7	149	24.8	7.73	8.7	2	0.38	20
207	22.4	13270	2077	15.3	50.6	31	37.5	46.2	2938	3087	457	300	570	20.9	23.6	149	24.7	7.69	8.7	3	0.39	35
207	22.4	13270	2077	15.3	50.6	31	37.5	46.2	2938	3087	457	300	570	20.9	23.6	149	24.7	7.69	8.7	4	0.18	34
207	22.4	13270	2077	15.3	50.6	31	37.5	46.2	2938	3087	457	300	570	20.9	23.6	149	24.7	7.69	13.3	3	0.27	44
207	22.4	13270	2077	15.3	50.6	31	37.5	46.2	2938	3087	457	300	570	20.9	23.6	149	24.7	7.69	15.1	2	0.38	33
207	22.4	13270	2077	15.3	50.6	31	37.5	46.2	2938	3087	457	300	570	20.9	23.6	149	24.7	7.69	9	4	0.49	28
207	22.4	13270	2077	15.3	50.6	31	37.5	46.2	2938	3087	457	300	570	20.9	23.6	149	24.7	7.69	16.2	4	0.62	32
266	21.1	14861	2027	14.9	47.5	30.3	36.3	45.3	2782	3070	491	280	520	22.2	25.9	161	25.7	8.26	12.1	2	0.13	26
266	21.1	14861	2027	14.9	47.5	30.3	36.3	45.3	2782	3070	491	280	520	22.2	25.9	161	25.7	8.26	11	3	0.31	39
266	21.1	14861	2027	14.9	47.5	30.3	36.3	45.3	2782	3070	491	280	520	22.2	25.9	161	25.7	8.26	8.9	2	0.52	39
266	21.1	14861	2027	14.9	47.5	30.3	36.3	45.3	2782	3070	491	280	520	22.2	25.9	161	25.7	8.26	13.6	3	0.31	23
266	21.1	14861	2027	14.9	47.5	30.3	36.3	45.3	2782	3070	491	280	520	22.2	25.9	161	25.7	8.26	13.8	3	0.25	46
266	21.1	14861	2027	14.9	47.5	30.3	36.3	45.3	2782	3070	491	280	520	22.2	25.9	161	25.7	8.26	7.3	2	0.23	22
109	25.9	15097	2106	15.7	48.6	31.5	37.5	46.5	2825	3114	502	290	500	20.8	24.5	161	24.9	7.48	13.4	3	0.4	27
109	25.9	15097	2106	15.7	48.6	31.5	37.5	46.5	2825	3114	502	290	500	20.8	24.5	161	24.9	7.48	11.8	3	0.29	17
109	25.9	15097	2106	15.7	48.6	31.5	37.5	46.5	2825	3114	502	290	500	20.8	24.5	161	24.9	7.48	8.5	3	0.43	25
109	25.9	15097	2106	15.7	48.6	31.5	37.5	46.5	2825	3114	502	290	500	20.8	24.5	161	24.9	7.48	7	2	0.25	30
109	25.9	15097	2106	15.7	48.6	31.5	37.5	46.5	2825	3114	502	290	500	20.8	24.5	161	24.9	7.48	11.3	2	0.26	35
109	25.9	15097	2106	15.7	48.6	31.5	37.5	46.5	2825	3114	502	290	500	20.8	24.5	161	24.9	7.48	13.1	3	0.38	40
110	25.8	15095	2105	15.7	48.6	31.5	37.5	46.5	2825	3084	502	290	500	20.8	24.5	161	24.9	7.48	10.7	3	0.4	29
110	25.8	15095	2105	15.7	48.6	31.5	37.5	46.5	2825	3084	502	290	500	20.8	24.5	161	24.9	7.48	13.8	3	0.26	28
110	25.8	15095	2105	15.7	48.6	31.5	37.5	46.5	2825	3084	502	290	500	20.8	24.5	161	24.9	7.48	7.9	3	0.24	29
110	25.8	15095	2105	15.7	48.6	31.5	37.5	46.5	2825	3084	502	290	500	20.8	24.5	161	24.9	7.48	12.6	3	0.5	38
110	25.8	15095	2105	15.7	48.6	31.5	37.5	46.5	2825	3084	502	290	500	20.8	24.5	161	24.9	7.48	12.7	3	0.36	34

110	25.8	15095	2105	15.7	48.6	31.5	37.5	46.5	2825	3084	502	290	500	20.8	24.5	161	24.9	7.48	9.7	3	0.36	38
177	23.8	14995	2072	15.3	48.2	31	37	46	2806	3065	497	290	510	21.4	25.1	161	25.3	7.82	10.2	3	0.25	34
177	23.8	14995	2072	15.3	48.2	31	37	46	2806	3065	497	290	510	21.4	25.1	161	25.3	7.82	9.4	3	0.42	28
177	23.8	14995	2072	15.3	48.2	31	37	46	2806	3065	497	290	510	21.4	25.1	161	25.3	7.82	7.8	3	0.35	44
177	23.8	14995	2072	15.3	48.2	31	37	46	2806	3065	497	290	510	21.4	25.1	161	25.3	7.82	17.7	3	0.45	23
177	23.8	14995	2072	15.3	48.2	31	37	46	2806	3065	497	290	510	21.4	25.1	161	25.3	7.82	6.4	3	0.39	35
177	23.8	14995	2072	15.3	48.2	31	37	46	2806	3065	497	290	510	21.4	25.1	161	25.3	7.82	14.4	3	0.22	25
265	20.9	14723	1868	13.7	49.6	27.9	36.7	46.6	2838	3131	467	260	510	23.8	24.8	153	24.6	8.82	13.5	4	0.27	32
265	20.9	14723	1868	13.7	49.6	27.9	36.7	46.6	2838	3131	467	260	510	23.8	24.8	153	24.6	8.82	18.2	2	0.28	26
265	20.9	14723	1868	13.7	49.6	27.9	36.7	46.6	2838	3131	467	260	510	23.8	24.8	153	24.6	8.82	9.7	4	0.31	33
265	20.9	14723	1868	13.7	49.6	27.9	36.7	46.6	2838	3131	467	260	510	23.8	24.8	153	24.6	8.82	13.5	3	0.28	41
265	20.9	14723	1868	13.7	49.6	27.9	36.7	46.6	2838	3131	467	260	510	23.8	24.8	153	24.6	8.82	17.2	4	0.62	33
265	20.9	14723	1868	13.7	49.6	27.9	36.7	46.6	2838	3131	467	260	510	23.8	24.8	153	24.6	8.82	11.7	3	0.27	21
323	16.9	14776	1819	13.2	48.7	27.4	39.8	44.3	2822	3175	430	290	530	22.9	27.1	153	23.7	8.62	13.2	2	0.41	26
323	16.9	14776	1819	13.2	48.7	27.4	39.8	44.3	2822	3175	430	290	530	22.9	27.1	153	23.7	8.62	13.8	3	0.17	33
323	16.9	14776	1819	13.2	48.7	27.4	39.8	44.3	2822	3175	430	290	530	22.9	27.1	153	23.7	8.62	2.1	4	0.25	35
323	16.9	14776	1819	13.2	48.7	27.4	39.8	44.3	2822	3175	430	290	530	22.9	27.1	153	23.7	8.62	13.1	3	0.31	29
323	16.9	14776	1819	13.2	48.7	27.4	39.8	44.3	2822	3175	430	290	530	22.9	27.1	153	23.7	8.62	13	3	0.42	36
163	24.8	14036	1939	15.4	48.3	27.2	39.1	44.2	2978	2978	507	310	560	20.9	23.5	149	23.6	7.47	12.8	4	0.34	29
163	24.8	14036	1939	15.4	48.3	27.2	39.1	44.2	2978	2978	507	310	560	20.9	23.5	149	23.6	7.47	7.9	2	0.46	36
163	24.8	14036	1939	15.4	48.3	27.2	39.1	44.2	2978	2978	507	310	560	20.9	23.5	149	23.6	7.47	15.1	3	0.2	28
163	24.8	14036	1939	15.4	48.3	27.2	39.1	44.2	2978	2978	507	310	560	20.9	23.5	149	23.6	7.47	15.3	3	0.26	26
163	24.8	14036	1939	15.4	48.3	27.2	39.1	44.2	2978	2978	507	310	560	20.9	23.5	149	23.6	7.47	18.5	2	0.19	29
164	24.8	14034	1938	15.4	48.3	27.2	39.1	44.2	2978	2978	507	310	560	20.9	23.5	149	23.6	7.47	6.5	3	0.24	20
164	24.8	14034	1938	15.4	48.3	27.2	39.1	44.2	2978	2978	507	310	560	20.9	23.5	149	23.6	7.47	7.4	3	0.37	28
164	24.8	14034	1938	15.4	48.3	27.2	39.1	44.2	2978	2978	507	310	560	20.9	23.5	149	23.6	7.47	13.7	4	0.3	39
164	24.8	14034	1938	15.4	48.3	27.2	39.1	44.2	2978	2978	507	310	560	20.9	23.5	149	23.6	7.47	13.6	4	0.14	34
164	24.8	14034	1938	15.4	48.3	27.2	39.1	44.2	2978	2978	507	310	560	20.9	23.5	149	23.6	7.47	10.4	2	0.15	25
366	19.3	14291	1897	13	53.1	27.7	38.7	43.1	2670	3133	427	260	530	23.3	25.5	150	25.3	8.97	13.1	2	0.3	37
366	19.3	14291	1897	13	53.1	27.7	38.7	43.1	2670	3133	427	260	530	23.3	25.5	150	25.3	8.97	8.7	4	0.32	37
366	19.3	14291	1897	13	53.1	27.7	38.7	43.1	2670	3133	427	260	530	23.3	25.5	150	25.3	8.97	9.2	3	0.28	27
366	19.3	14291	1897	13	53.1	27.7	38.7	43.1	2670	3133	427	260	530	23.3	25.5	150	25.3	8.97	12.6	3	0.41	36

366	19.3	14291	1897	13	53.1	27.7	38.7	43.1	2670	3133	427	260	530	23.3	25.5	150	25.3	8.97	10.5	3	0.37	21
158	24.1	14883	2081	14.5	50.4	30.8	41.9	42.9	2756	2950	498	270	520	23.2	22.3	164	25.9	8.28	14.5	4	0.46	41
158	24.1	14883	2081	14.5	50.4	30.8	41.9	42.9	2756	2950	498	270	520	23.2	22.3	164	25.9	8.28	8.4	4	0.32	36
158	24.1	14883	2081	14.5	50.4	30.8	41.9	42.9	2756	2950	498	270	520	23.2	22.3	164	25.9	8.28	8.9	3	0.37	26
158	24.1	14883	2081	14.5	50.4	30.8	41.9	42.9	2756	2950	498	270	520	23.2	22.3	164	25.9	8.28	11.3	3	0.47	30
158	24.1	14883	2081	14.5	50.4	30.8	41.9	42.9	2756	2950	498	270	520	23.2	22.3	164	25.9	8.28	11.5	4	0.42	26
385	18.4	13143	1848	13.5	54.5	26.6	37.7	40.6	2748	2856	454	250	510	25.3	26.8	152	26.5	9	11.4	3	0.36	29
385	18.4	13143	1848	13.5	54.5	26.6	37.7	40.6	2748	2856	454	250	510	25.3	26.8	152	26.5	9	15.7	3	0.14	34
385	18.4	13143	1848	13.5	54.5	26.6	37.7	40.6	2748	2856	454	250	510	25.3	26.8	152	26.5	9	14.5	3	0.22	28
385	18.4	13143	1848	13.5	54.5	26.6	37.7	40.6	2748	2856	454	250	510	25.3	26.8	152	26.5	9	10.5	3	0.36	41
385	18.4	13143	1848	13.5	54.5	26.6	37.7	40.6	2748	2856	454	250	510	25.3	26.8	152	26.5	9	17.3	4	0.42	37
148	25.5	13498	1966	14.7	56.2	28.5	39.6	42.5	2815	2922	470	270	490	23.1	24.7	152	25.4	7.81	9.7	4	0.23	23
148	25.5	13498	1966	14.7	56.2	28.5	39.6	42.5	2815	2922	470	270	490	23.1	24.7	152	25.4	7.81	13	4	0.25	34
148	25.5	13498	1966	14.7	56.2	28.5	39.6	42.5	2815	2922	470	270	490	23.1	24.7	152	25.4	7.81	8.3	2	0.39	24
148	25.5	13498	1966	14.7	56.2	28.5	39.6	42.5	2815	2922	470	270	490	23.1	24.7	152	25.4	7.81	9.7	2	0.33	30
148	25.5	13498	1966	14.7	56.2	28.5	39.6	42.5	2815	2922	470	270	490	23.1	24.7	152	25.4	7.81	15.3	2	0.44	33
172	24	13322	2114	14.3	48.7	30.7	39.8	45.1	3004	2885	507	290	560	21.6	24.7	153	24.8	8	11.4	2	0.4	29
172	24	13322	2114	14.3	48.7	30.7	39.8	45.1	3004	2885	507	290	560	21.6	24.7	153	24.8	8	14.5	2	0.44	35
172	24	13322	2114	14.3	48.7	30.7	39.8	45.1	3004	2885	507	290	560	21.6	24.7	153	24.8	8	10.1	2	0.22	26
172	24	13322	2114	14.3	48.7	30.7	39.8	45.1	3004	2885	507	290	560	21.6	24.7	153	24.8	8	11	2	0.28	33
172	24	13322	2114	14.3	48.7	30.7	39.8	45.1	3004	2885	507	290	560	21.6	24.7	153	24.8	8	11.9	3	0.28	24
391	15.7	14534	1725	14.4	53.9	28.1	37.3	43.8	2691	3156	449	270	540	23.3	27.3	164	26.6	9.59	5.7	2	0.38	22
391	15.7	14534	1725	14.4	53.9	28.1	37.3	43.8	2691	3156	449	270	540	23.3	27.3	164	26.6	9.59	10.4	3	0.28	17
391	15.7	14534	1725	14.4	53.9	28.1	37.3	43.8	2691	3156	449	270	540	23.3	27.3	164	26.6	9.59	12.2	3	0.54	39
391	15.7	14534	1725	14.4	53.9	28.1	37.3	43.8	2691	3156	449	270	540	23.3	27.3	164	26.6	9.59	16.5	4	0.38	29
391	15.7	14534	1725	14.4	53.9	28.1	37.3	43.8	2691	3156	449	270	540	23.3	27.3	164	26.6	9.59	16.2	3	0.4	40
213	22.5	14801	1894	13.9	50	28.3	37.1	47.1	2852	3055	471	260	500	23.3	24.4	153	24.3	8.56	15.7	3	0.31	29
213	22.5	14801	1894	13.9	50	28.3	37.1	47.1	2852	3055	471	260	500	23.3	24.4	153	24.3	8.56	11.3	3	0.34	30
213	22.5	14801	1894	13.9	50	28.3	37.1	47.1	2852	3055	471	260	500	23.3	24.4	153	24.3	8.56	19.8	3	0.26	37
213	22.5	14801	1894	13.9	50	28.3	37.1	47.1	2852	3055	471	260	500	23.3	24.4	153	24.3	8.56	15.6	3	0.44	28
213	22.5	14801	1894	13.9	50	28.3	37.1	47.1	2852	3055	471	260	500	23.3	24.4	153	24.3	8.56	6	4	0.26	17
237	21.7	14765	1882	13.8	49.8	28.1	36.9	46.9	2846	3139	469	260	500	23.5	24.6	153	24.4	8.68	19.3	3	0.22	34

237	21.7	14765	1882	13.8	49.8	28.1	36.9	46.9	2846	3139	469	260	500	23.5	24.6	153	24.4	8.68	16.5	2	0.34	37
237	21.7	14765	1882	13.8	49.8	28.1	36.9	46.9	2846	3139	469	260	500	23.5	24.6	153	24.4	8.68	9.2	2	0.33	26
237	21.7	14765	1882	13.8	49.8	28.1	36.9	46.9	2846	3139	469	260	500	23.5	24.6	153	24.4	8.68	10.5	3	0.34	33
237	21.7	14765	1882	13.8	49.8	28.1	36.9	46.9	2846	3139	469	260	500	23.5	24.6	153	24.4	8.68	9.3	3	0.36	33
MEAN	21.1	13889	1918	14.1	51.2	28.7	38.9	45.1	2800	3016	469	282	537	22.8	24.8	154	24.9	8.43	12	3	0.33	31
MAX	27.5	15109	2120	15.9	56.2	31.8	43	49.3	3022	3269	512	320	590	25.7	28.1	164	27.1	9.81	22.6	5	0.62	52
n=(2xMEAN)	42.1	27779	3836	28.1	102	57.4	77.9	90.1	5599	6032	938	564	1074	45.6	49.6	309	49.7	16.9	24.1	6	0.66	61
m= n- MAX	14.6	12670	1716	12.2	46.3	25.6	34.9	40.8	2577	2763	426	244	484	19.8	21.6	145	22.7	7.06	1.49	1	0.04	9.5

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