# Rolesia.com

# VIRTUAL MACROECONOMIC SIMULATION PORTAL

Web Professional and Standard Versions



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Handbook for Rolesia versions 2.x

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#### 1 Introduction

#### 1.1 What Is Rolesia?

Rolesia.com is a web-based macroeconomic simulation which has been in development since 2003. Rolesia.com includes a free, fun and strategic economy web simulation for all who enjoy strategy simulations, and for all wishing to discover and understand the policy tools on offer to Governments and Central Banks around the world. The purpose of the software is to help the world-wide population understand the complexity of the world economy, and also to understand the power behind governments' fiscal and the central banks' economic monetary policies. Helping to improve the world population's knowledge is a small contribution towards empowering the people of this planet and strengthening democracy. The simulation can be perceived as an economy game based on a virtual economy.

Before you start the simulation there are some facts you will need to know:

The President in this game has more powers than is usually the case in democracies, and thus you will not need to make political deals to have your budget approved. In reality you cannot simulate policies three times a year nor can you continue to change the interest rates, as you please. In this simulation you are the decision-maker both for the Government and for the Central Bank. However, both entities can stop you if your policies are considered counter-productive. And the population always has the last say as you need to be voted for every four years.

# 1.2 The Computer Model

This simulation is based on a fuzzy-logic mathematical model which comprises over 130 macroeconomic indicators (see the Appendix for an overview). These indicators are variables which are interrelated and weighted according to their observed macroeconomic effect on the economy.

The indicators of our model vary according to the interaction between the various economic indicators within the economy as a whole, viewed as a closed system with a finite number of variables.

The economic variables are interrelated and can lead to extreme volatility. These excesses must be counter-balanced by sound policies that should help to stabilize the economic cycle. You can influence policy in the following areas:

- Monetary Policies
- Fiscal Policies
- Currency and Commodity Reserves



Most indicators are influenced by your policies but not all of them. International economies cannot be influenced; currencies and commodities can only be slightly influenced.

All other national indicators provide you with invaluable information on the health of your economy.

Note: This model is not scientifically proven and must, therefore, be seen as an attempt to simulate a developed economy by basing itself on a mathematical economic model designed to simulate reality as much as possible.

#### 1.3 Microeconomics vs. Macroeconomics

No microeconomic simulation makes sense without the "big picture", i.e. Macroeconomics. The focus of this simulation is Macroeconomics.

Here are two definitions of both terms which appear frequently in this User Guide:

#### Definition of Microeconomics (Wikipedia):

"Microeconomics (from Greek: μικρό-ς // small, little and οικονομία /ikono mia/ economy) is a branch of economics that studies how households and firms make decisions to allocate limited resources, typically in markets where goods or services are being bought and sold. Microeconomics examines how these decisions and behaviours affect the supply and demand for goods and services, which determines prices; and how prices, in turn, determine the supply and demand of goods and services.

This is a contrast to macroeconomics, which involves the "sum total of economic activity, dealing with the issues of growth, inflation and unemployment, and with national economic policies relating to these issues". Macroeconomics also deals with the effects of government actions (such as changing taxation levels) on them."

Link: http://en.wikipedia.org/wiki/Microeconomics

#### Definition of Macroeconomics (Wikipedia):

"Macroeconomics (from prefix "macr(o)-" meaning "large" + "economics") is a branch of economics that deals with the performance, structure, and behavior of a national or regional economy as a whole[1]. Along with microeconomics, macroeconomics is one of the two most general fields in economics. It is the study of the behavior and decision-making of entire



economies [2] . Macroeconomists study aggregated indicators such as GDP, unemployment rates, and price indices to understand how the whole economy functions. Macroeconomists develop models that explain the relationship between such factors as national income, output, consumption, unemployment, inflation, savings, investment, international trade and international finance. In contrast, microeconomics is primarily focused on the actions of individual agents, such as firms and consumers, and how their behavior determines prices and quantities in specific markets.

While macroeconomics is a broad field of study, there are two areas of research that are emblematic of the discipline: the attempt to understand the causes and consequences of short-run fluctuations in national income (the business cycle), and the attempt to understand the determinants of long-run economic growth (increases in national income).

Macroeconomic models and their forecasts are used by both governments and large corporations to assist in the development and evaluation of economic policy and business strategy."

Link: http://en.wikipedia.org/wiki/Macroeconomics

# 1.4 Getting started

The simulation starts in the year 1980 and lasts until 2100, if you manage to stay in that long. The country has just relieved itself of a not-so-popular president, who has guided it through times of economic boom and bust caused by many internal and external factors.

You have been elected to guide the country and provide stability as well as growth in what can be considered to be a socially and politically demanding society. The poor wish to better their lives, the middle-class to sustain and improves theirs and the richer classes, of course, wish to stay rich.

The public deficit or government debt is, however, not as flexible as one could wish, and you will need to keep your budget balanced if you wish to join the Common Market and the EURO currency in 1999 (this feature will soon be optional).

Your population wants more benefits; the industrial and business sectors want more tax cuts, and your budget cannot be squeezed in both directions. <u>You, as President,</u> will have to decide who shall prevail.

In order to quantify your progress, there is a point system (see the chapter on "Points and Ranking"), which will also appear in the simulation's "Entry" page (www.rolesia.com/index.php), if you reach the Top 10.

The simulation lasts up to 120 years – from 1980 until 2100 – and the longer you stay in power and successfully run the economy, the more points you will gather on your travels through the  $20^{th}$  and  $21^{st}$  centuries.



#### 2 The 3 Phase Simulation

The simulation itself is based on a <u>3-Phase model</u>. Each year comprises three sections from which information can be retrieved or in which fiscal or monetary policies can be made:

Phase 1: Policies – Develop your fiscal and monetary policy strategy

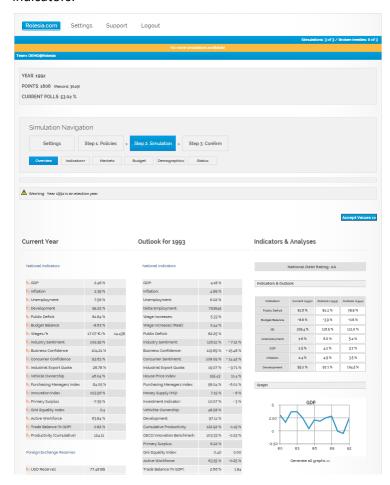
Phase 2: Simulation – Get a snapshot of the current economy and outlook

Phase 3: Confirm - Confirm strategy and continue to next year

Note: When you login initially, you will automatically begin at the "Simulation" section.

Every New Year begins with a section called "Simulation". You can then choose to go to "Policies" if you wish to implement a new policy strategy straight away (policies can be fiscal and/or monetary). By going directly to "Simulation" you do not use any of your simulation credits. Only if you go to "Policies" and then press the "Simulate" button do you use one of your three available credits. You cannot complete a year without at least going through the "Simulation" and "Confirm" phases.

The simulation consists of different sections (or phases), subsections and columns with different indicators:





Further information concerning each phase can be retrieved in Chapter 4, "Step By Step, Phase By Phase".

#### The Simulation's Economic and Social Indicators

All indicators measure the state of different economic factors. They will help you to sail through the sometimes obscure waters of the economic situation as it develops.

Like the well-known butterfly effect, a small development in one area may soon have a major effect on the whole economy.

The economic indicators are intended as a guide and may even indicate how your economy will develop over the next year or two. They cannot, however, provide you with indications of long-term trends, and cannot predict the development of international events over which you have practically no influence. Nor can they predict the pricing of commodities or currencies.

The economic indicators covered in this simulation include:

- National economic and social indicators
- o International economic indicators
- Commodities and Currencies
- Quantitative Easing

#### 2.1 National Economy

The national economy is in your hands and there are many indicators which will help you to evaluate the state of the economy and any current trends.

In order to obtain first-hand information on the current year's indicators, you can check either "National Indicators", "Foreign Exchange Reserves", "Ratings & 10 Year T-Bonds", "Real Estate", "World Markets", or "Market Data" under the current year's column. Please be aware that the variables of the current year are constant. They are the result of any measures you may have taken the year before or external factors you cannot influence.

All policies and interventions you make will affect the coming year and of course have an effect on the following years as well. Keep this in mind if you are planning drastic measures for your economy.

#### 2.2 International Economies

Every year you will be provided with first-hand information on the state of the world's various national economies coming within the scope of this simulation.

The state of these economies will play a large role in your economic model in the coming years as your export business is closely related to demand overseas and your currency will strengthen or weaken accordingly. Strong economies world wide will result in a higher demand for resources



and thus in higher commodity prices. Higher commodity prices in turn may result in higher inflation.

Last but not least, international economic factors will test the competitiveness of your economy and will challenge the success of your domestic economic policies.

#### 2.3 Commodities and Currencies

Both groups of indicators – commodities and currencies - play a major role in this simulation. When commodities rise quickly in price due to strong world economies or in many cases a weak dollar, this can influence inflation. Rising commodity prices tend to be associated with rising inflation.

You can purchase and sell gold as well as oil to hedge yourself against rising prices or simply to increase the proportion of commodities in your reserves portfolio. (See Chapter 3.1 Policies).

The movement of currencies tends to reflect the development of the related economies. A strong US dollar can be due either to the strength of the US economy or to the weakness of your own economy, or both. If your economy is weak and the US economy is strong, then you will experience an unusually weak currency.

A strong currency has the advantage that you can import cheaply; in other words, commodities which are quoted in US Dollars are cheaper to purchase. However, you will lose your competitive advantage and must expect your export levels to go down. This could result in rising unemployment, which would weaken your economy, thus weakening your currency.



# 3 Step By Step, Phase By Phase

The simulation starts every year on Step 2: Simulation. The simulation comprises 3 phases:

- Step 1: Policies Develop your fiscal and monetary policy strategy
- Step 2: Simulation Get a snapshot of the current economy and outlook
- Step 3: Confirm Confirm strategy and continue to next year



Furtermore, you can go to Settings to change options, request support, retrieve license information or start a new simulation over again.

Each phase contains subsections. In each of the sub-chapters we will explain the goal of each phase and what they include.

#### 3.1 Phase 1: Policies



There are two types of policy categories. Your **monetary policies**, comprising:

- interest rates adjustments,
- federal quantitive easing measures (only allowed under very weak economic conditions),
- federal currency and commodity interventions

Your **fiscal policies** include the generation of revenue through taxes and the management of your expenditure.

Both types of policies will help to guide the economy through sometimes turbulent international and self-inflicted national volatile conditions. These conditions can cause higher unemployment through lower exports, or simply a strong currency as a result of a weak international economic situation.

Every year you will have the chance to simulate your policy-related decisions up to three times. If the simulation (Step 2: Simulation) shows that your policies are too radical or that they are

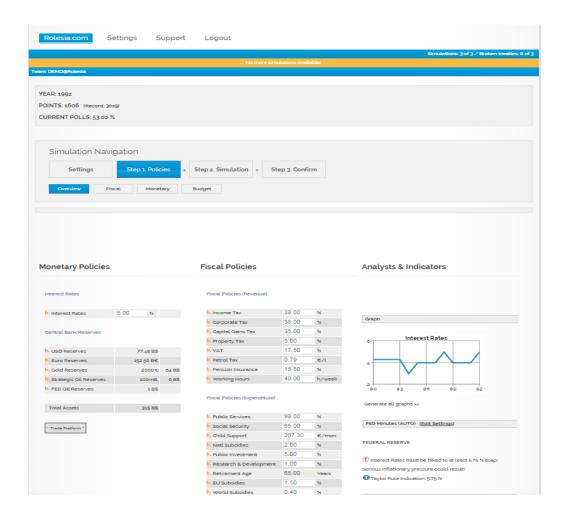


potentially counter-productive you can reverse your policies or try further measures to fine-tune the economy.

The government, however, can also block your decisions. If the government decides that your policies will have repercussions that they are not willing to accept, you will be forced to rethink your policies. Polls showing over 66% (a two-thirds majority) will, however, support you with your policies, however extreme they may be. The government cannot block your decisions when you have a 2/3 majority of the population supporting you.

There are many economic indicators that you can influence, but most of them will be only slightly affected by your policies. They will have their own trends and will not always also move in the direction you desire. Many indicators are dependent on factors such as the international economic situation, the strength of the US Dollar and the price of commodities. They may also be affected by the strength of the housing market as well as by factors such as the national business sentiment, which reacts to events in a different way than, for instance, the consumer sentiment.

A stronger domestic market will make you less dependent on events taking place across the planet. A too strong domestic economy will, however, strengthen your economy to the point where wages may become less competitive, the national currency too strong and interest rates too high. Unfortunately a bust usually follows a boom.





#### 3.1.1 Subsection: Monetary and Fiscal Policies

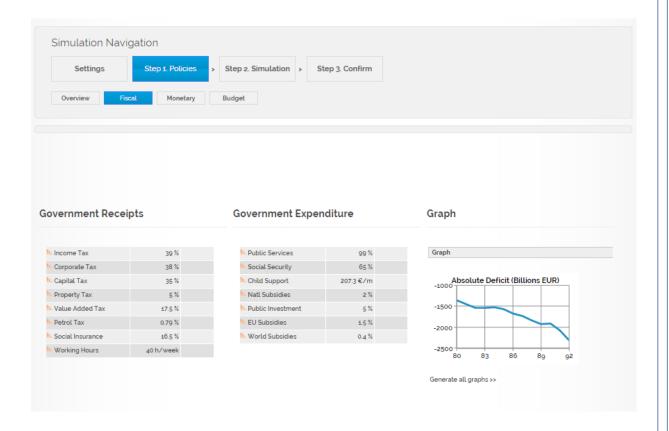
#### Fiscal policies

A country's economy is very dependent on its fiscal system. Therefore, a sound fiscal policy is vital to keep a country's economy going in the right direction, as this signal stability and a long-term investment environment.

Lowering any type of taxes will provide a stimulus to your country during times of hardship. The lowering of taxes will, however, have the negative side-effect that, without growth, you may experience a shortfall in your budget and you will have to compensate by finding ways to reduce losses by for instance introducing unpopular expenditure cuts.

Fiscal stimulus to your economy can also take place by raising subsidies or public investment or even by stimulating and subsidizing innovations. All are tools with which you can stimulate an economy in lean times; they must, however, be reduced with any economic recovery or you risk your economy becoming too dependent on them, causing inflation.

Cutting back on expenses such as pensions, social services, benefits etc can be counter-productive, as the population tends to save more and spend less, thus reducing the potential growth and output of your country.





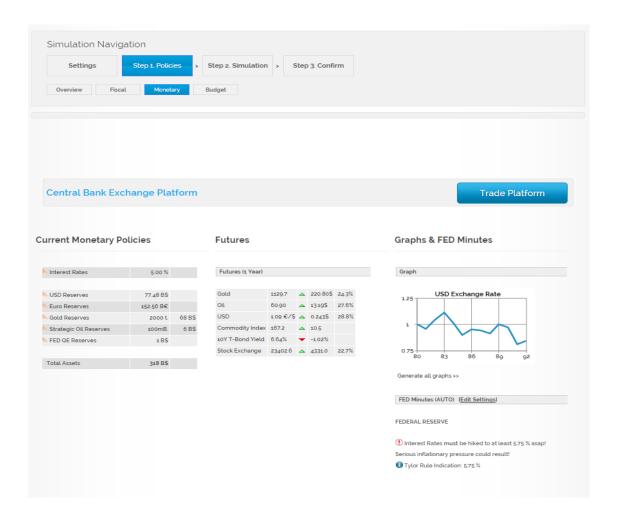
#### **Monetary Policies**

Your function as a quasi-central banker is limited, but it is also one of the most powerful policy-making tools you control. The interest rate gauge can be used to contain inflation and stimulate your economy without having to raise spending or taxes.

The setting of interest rates is the equivalent of establishing how much your economy needs to pay for credit. Cheap credit can have the effect that assets (houses, stocks, etc) are purchased in greater quantities for speculative purposes, which can lead to economic or speculative "bubbles".

The same applies to Quantitive Easing, which should only be used as a tool of last resort. Quantitive Easing helps to reduce the bond yields by purchasing government bonds. By lowering the borrowing costs both the government profits thanks to lower interest rates as well as the economy as a whole. Falling yields leads to a weaker currency which helps the exporting industry in your country.

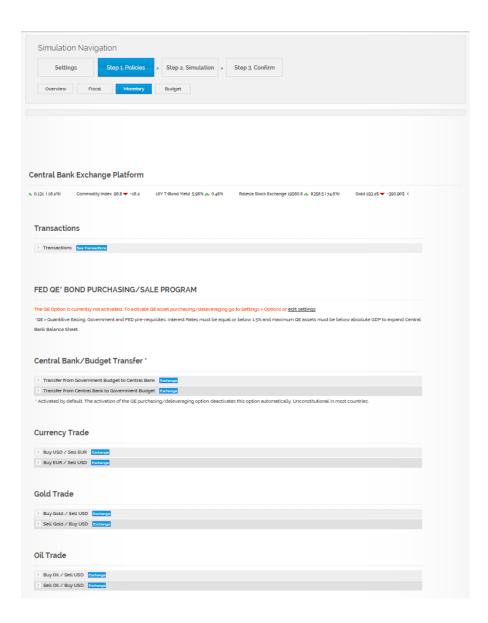
You can also purchase and sell commodities and currencies. All of these tools must be used with prudence as there is no effect without a side-effect.





#### Trade Platform: The Federal Intervention and Exchange Interface

In order to exchange commodities or currencies, but also to move capital from the federal reserves to the government deficit account or vice-versa (optional and only allowed if quantitive measures are not active), you will need to click on "Trade Platform" integrated within Monetary Policies.



There are three steps you will need to make to implement your action of choice at this exchange interface:

- Step 1: Choose Intervention Type (e.g. Buy Gold / Sell USD)
- Step 2: Quantify & Execute (Quantify Allocation amount and execute)
- Step 3: Transaction (Verify the correctness of the transaction)



Summarizing: First of all, choose the required type of intervention, then quantify the amount to be exchanged. Finally, you will need to execute the action, so you will be automatically redirected to the transaction page, which lists all transactions made during your simulation.

#### Wrapping Up the Policies:

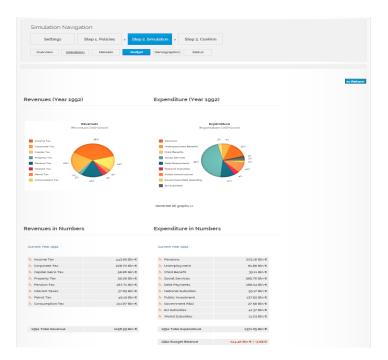
All categories of policies will help you to fine-tune the trends of your domestic economy. They will help you to take the edge off the booms and have a prophylactic stimulating effect during economic busts.

As we mentioned above, all policies are a tool to help you improve the economy and minimize the volatility caused by a large number of events, as well as helping you to excel and gain as many simulation points as your strategic possibilities and luck allow.

#### 3.1.2 Subsection: Budget

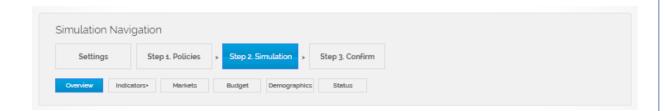
The "Budget" section is divided into the forecast budget for the current year and for the following year.

The budget gives details of all incoming revenue and all outgoing expenditure. The two pie charts show their relative values. Every element that makes up the budget is a result of your policy choices. At the bottom of the budget forecast is the budget balance status.

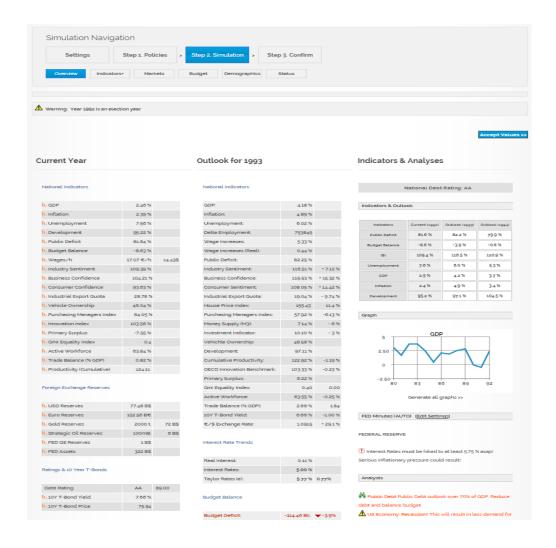




#### 3.2 Phase 2: Simulation



Every year you can **simulate the effects of your policies** and external market factors on your economy **up to three times**. The simulation is always based on the policies currently chosen by you (either changed or unchanged from previous policies), as well as any influence coming from international economics, the commodity prices, your reserves, etc. The simulation will provide you with the data for the current, as well as a simulation of economic trends for both the next year and the year after that.





#### 3.2.1 Subsection: Overview

#### **Current Year**

The data in this column are the result of the policies you have simulated and confirmed in the previous year. As you cannot change the results of policies previously agreed upon, the data in this column do not change. The policies you change this year will affect your economic indicators for years to come.

#### Outlook for [next year]

The simulated data for the next year is always an estimate. Simulated data are – when the random option is on (default) - never constant. Various parameters, including the value of the dollar, commodity prices, international economic factors, etc. are partly based on random numbers. To turn off the random factors please consult chapter 8.4 - Options)

The simulated data for the year after next are even more unreliable as they are extrapolated based on the estimated data for the next year, which are never exact. This function helps you to make an estimate and fine-tune your policies accordingly. This function, however, is very useful to foresee economic trends such as growth, over-heating or deflation, or a potential drop in industrial output. It also provides further indicators which you can use as a warning system to avoid awkward economic volatility, which all governments around the world dislike.

#### **Indicators & Analyses**

At top you will be informed about the current national debt rating. This indicator is important to retrieve financial analysts' assessment of the creditworthiness of your economy and help you to measure the cost of re-financing your debt.

This column also provides you with an overview of the most important economic indicators, including their estimated values for the coming year and the next.

ndicators &	Analyses	<b>;</b>	
	National Dala	t Datin A	
	National Deb	t Rating. A	
Indicators & Outlo	ok		
Indicators	Current (1991)	Outlook (1992)	Outlook (1993)
Public Deficit	83.3 %	91.1 %	89.1 %
Budget Balance	-10.7 %	-9.9 %	-4.2 %
IBI	83.4 %	92.0 %	112.4 %
Unemployment	10.4 %	8.6 %	5.4 %
GDP	-21%	2.6 %	7.3 %
Inflation	-0.6 %	1.1 %	43%
Development	97.1 %	94.5 %	102.1 %



Apart from these indicators, you will be provided with the opinions and warnings of financial experts and analysts, as well as reports coming from the FEDERAL RESERVE and, beginning in 1993, with the EU Commission's yearly report on your accession to the Currency Union and your subsequent progress.

#### **FED Minutes**

The Federal Reserve Commission report recommends changes in interest rates, warns you of inflationary trends you may have overlooked, and will intervene (if FED Auto Pilot is activated and which is activated by default) and adjust interest rates automatically without your explicit permission if, in their independent opinion, your economy is at risk.

The commission would, under normal circumstances, theoretically act neutrally. In this simulation you have the power to adjust rates within a range considered acceptable to the equally powerful Federal Reserves Commission.

# Important: to turn off the automatic intervation of the central bank please consult chapter 8.4 - Options

And finally, after the third simulation you will not be able to simulate any change of policies and will be forced to continue the simulation based on the status quo of policies. At this point you cannot reverse any policies nor change interest rates.

#### 3.2.2 Subsection: Indicators +

In the "Indicators +" subsection you can obtain more detailed economic data to help you to monitor the "big picture" by many single indicators which can influence your simulation over the coming years.

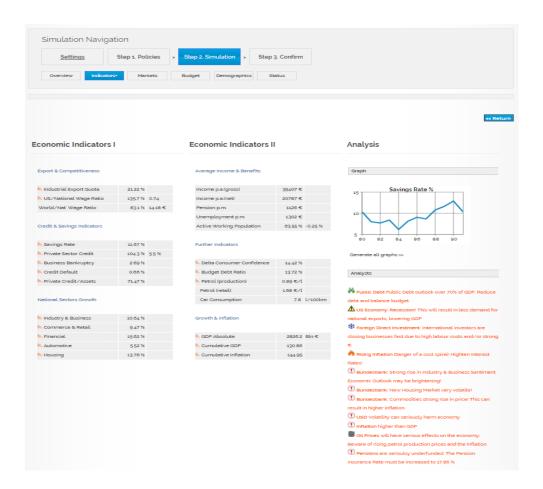
For instance: if the savings rate falls drastically and you are experiencing unexplainable growth it is probably because consumers are over-confident and spending without saving for a rainy day.

Another example is the case of housing booms. If house prices (The house index for 1980 is 100) are rising too fast, you may have to intervene by raising interest rates.

There are many indicators that point out potential over-valuations. You must monitor these values very carefully in order to balance out the economic cycles and prevent extreme volatility that can create grave problems in later years.



The following areas are covered in the "Indicators +" subsection:



#### Economic Indicators I & II

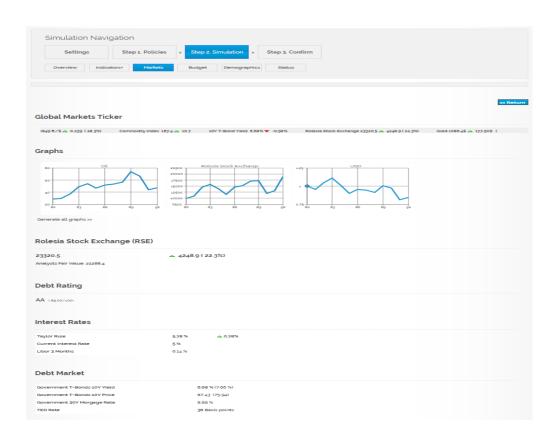
Export & Competitiveness Indicators
Credit & Savings Indicators
Further economic indicators



#### 3.2.3 Subsection: Markets

The "Markets" subsection provides more detailed financial and stock market information. A live ticker provides you with real-time interest rates, stock market, 10 year t-bond yield, commodity and currency quotes.

There are also graphs of the year-by-year movements of the most important financial indicators.

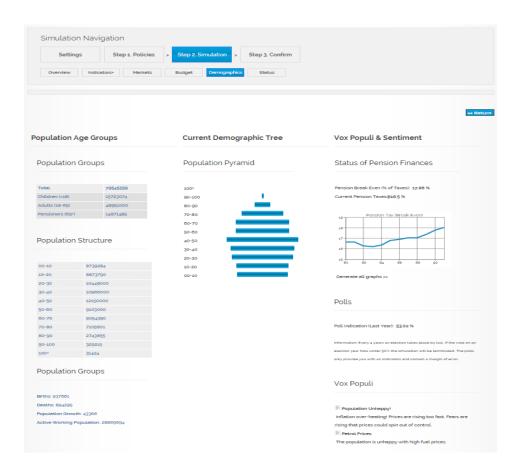


Furthermore, it contains further indicators and macroeconomic drill-downs to help you determine the correctness of your policies.

- Rolesia Stock Exchange (RSE)
- Debt Rating (including Creditworthiness Level)
- Interest Rates Drill-Down
- Debt Market
- Central Bank Minutes
- Overall Market Data including many indicators from Inflation Drill-Down to a wide range of national variables.



#### 3.2.4 Subsection: Population & Polls



In this subsection you will find data about the makeup of the population (numbers of children, adults and pensioners), the absolute number of the active working population, as well as its demographic structure and a breakdown of the population into age groups.

#### Demographic Tree

The demographic tree of your population can be found in this subsection. The tree can help you foresee future trends in your population. A falling birth-rate requires better pro-child measures such as raising child support. In order to sustain your economy in the long term you will need to follow these trends very carefully. The effects are very slow but very hard to change on a short- to medium-term basis.

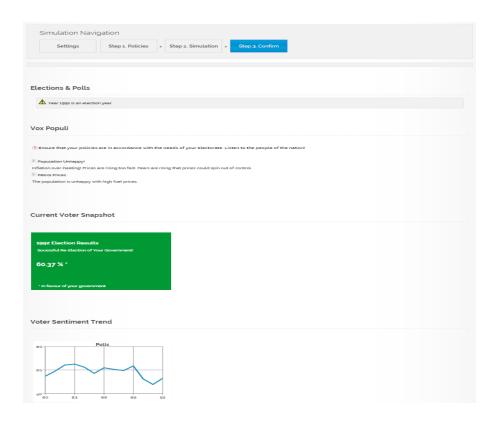
#### **Vox Populi & Sentiment**

At "Vox Populi & Sentiment" you can obtain the latest poll results. They will give you an indication of the population's sentiment.



The pension break-even indicator is very important as it indicates how much money is needed for pensions. An aging population can result in higher taxes to pay for pensions, (in Rolesia this policy is called "Pension Taxes") which, in turn, can seriously harm your economy.

#### 3.3 Phase 3: Confirm



In the "Confirm" phase you will be presented with the opinion polls of your population in non-election years or with their vote in election years.

Every four years elections take place. In election years, starting in 1984 (1988, 1992, ...) and continuing up to the year the simulation comes to an end in 2100, no opinion polls will be shown. You will either be voted-in for a further four years or you will lose the election, causing the simulation to come to an abrupt end.

In order to avoid unexpected election failures we recommend you to keep an eye on the polls and, as politicians do in real life, make the necessary popular decisions before elections take place.

After confirming the election or poll results you will be redirected to the "Simulation" section for the New Year, and the simulation cycle will continue. However, if you should lose an election, you will be redirected to a GAME OVER page. You will need to renew the simulation to continue simulationg.

Note: The "Simulation" phase is the equivalent to starting a new year. Once you have successfully passed the "Confirm" phase, you will have started a new year and automatically go to Simulation.



# 4 You, The President

#### 4.1 Policies, Your Tools

You, as President, have been given the tools to use your unusual amount of power and the tools to use that power over the direction of the country's economy, currency, demographics, and even over the world-wide commodities market and thus over other national economies.

Your tools or policies are of two types:

- Fiscal Policies
- Monetary Policies

To read more on the different policy-making tools you can use to influence the economy, please go to Chapter 3.1 "Policies"

#### 4.2 You Do Not Have Endless Powers

Every year you will have the chance to simulate your policy-related decisions up to three times. If the simulation phase shows that your policies are too radical or that they are potentially counterproductive, you can change your policies or try further economic fine-tuning measures.

The government, however, can also block certain decisions you make. If the government decides that your policies will have repercussions it is not willing to accept, you will be forced to re-think your policies. Polls showing over 66% approval of your policies (a two-thirds majority) will, however, give you the authority to carry out your decisions.

Every four years from 1984 on, you will need to renew your people's support for the following four-year term. If your electoral support falls below 50% in any election year, you will lose power and your simulation will end.

The Federal Reserve report recommends interest rate moves; warns you of inflationary trends you may have overseen and will intervene without your explicit permission if, in their independent opinion, your economy is at risk. If you turn off this option, you will only receive recommendations and no adjustments will be made.

From 1999 on you will be forced to comply with the criteria agreed upon in 1993 – see chapter 4.4 - "Convergence Criteria" (Maastricht Treaty). Non-compliance with the terms agreed upon will result in a breach of the Maastricht Treaty, and you will be punished. If you have been punished three times and again fail to comply, you will be banished from the currency zone and your simulation will come to an end.



#### 4.3 Three Simulations And How You Can Use Them

Every year starts with the "Simulation" phase. Every year you can simulate any policy changes – fiscal or monetary – up to three times.

If you go directly to "Simulate" you will not use up any of the three simulations at your disposal.

In order to simulate any policy changes, you will need to go to "Policies" and click on the "Simulate" button in the bottom right corner.

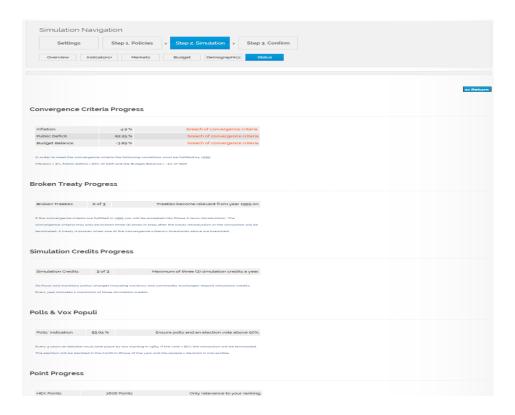
When you have used your last simulation credit your simulation will come to a halt and your last policies will be unchangeable. You will only be left with the possibility to go to "Confirm" and proceed with the next simulation year.

The three simulations can be used for monetary policies as well as for the purchase and sale of currencies or commodities.

Note: The use of simulation credits has no effect on your score.

#### 4.4 Status: How Are You Doing?

In order to obtain an overview of your status in the simulation, click on the "2. Simulation" tab, then on "Status".





#### **Convergence Criteria (Maastricht Treaty)**

In order to meet the convergence criteria the following conditions agreed upon in the Maastricht Treaty in 1993 must be fulfilled:

- Inflation must be kept below 3%
- The Public Deficit must be kept below 60% of GDP
- The Budget Balance must not surpass -3% of GDP

If the threshold has been breached the following warning will appear:

"Breach of convergence criteria".

If the economic data qualify you for Euro Zone entry, the following text will appear:

"Convergence criteria fulfilled".

First Warning: The breach of just <u>one</u> of the convergence criteria is enough for your simulation to be abruptly terminated in 1999.

Second warning: Also keep in mind that macroeconomic policies can take years to become effective.

#### **Broken Treaty Progress**



After successfully joining the Euro Zone in 1999, you must continue fulfilling the convergence criteria. Any year you fail to fulfil one or all of the criteria, you will be given one punishment point.

If you breach the treaty for a fourth time your simulation will come to an end.

Tip: At the top right corner of your browser, you can monitor your treaty breach status: Simulations: 3 of 3 / **Broken treaties: 0 of 3** 

#### Simulation Credits Progress

See Chapter 5.1: "Three Simulations"



#### Polls & Vox Populi

Follow the poll results to ensure re-election.

#### **Point Progress**

To improve your rankings you need points...lot's of them. Here you can find your score. More detailed information about points - and how to gain (and lose) them - in Chapter 6.

# 4.5 Elections: Vox Populi

The population tends to show its support or rejection of your policies through the polls. If the population is discontented with your policies or begins to protest against them, this will be expressed latest at the elections.

Every year you can follow the opinions of your population by keeping an eye on the results of the yearly polls. This is especially important shortly before elections, which occur every four years, with the first election taking place in 1984.

The polls are based on an average of various national polls and the results are reported once a year during the "Confirm" phase. Polls are never accurate and there is a margin of error of approximately 2%.

Also beware of any actions taken during times of a two-thirds majority, as these tend to last for very short periods and you will be forced to change your policies once you lose popular support.

# 5 The Challenge Of This Simulation

The purpose of this simulation is not to reach any final destination but is the journey itself. The simulation, even if not identical with the real world, should help to make you aware of the tactical knowledge required for running a large economy, as well as the challenges this poses. It should improve your current knowledge and test your strategic skills in keeping an eye on the "big picture".

Most educational programs and simulations on the market focus on microeconomic topics such as stock markets, company results, household economics etc.



#### 5.1 Three Simulations

In any given year you have a maximum of three simulations. All policy changes, including the exchange of both currency and commodities, require simulation credits.

To simulate any fiscal or monetary policy change, you will require <u>one</u> of your three available simulations.

Should you, however, choose to intervene in the currency or commodity markets, the amount of simulation credits required can vary.



Tip: At the top right corner of your browser, you can monitor your simulation credit status: **Simulations: 0 of 3** / Broken treaties: 0 of 3

#### Internal National Transfers (optional): 0 simulation credits

In times of budget surpluses, or when you require more funds in order to intervene in the currency or commodity markets, you can transfer funds from your government budget to your federal reserves. This transfer does not require the use of any simulation credits.

Please be aware that any intervention, even on a national basis, affects the economy as a whole. Prudence will be necessary when using this tool.

Note: This feature is optional and in most countries considered an illegal practice, as printing money and transferring to the real economy can lead to hyper-inflation. We offer this option though. If, however, quantitive easing activities are taking place, this feature is automatically deactivated.

#### **Currencies: 2 simulation credits**

In order to purchase or sell currencies, you need to fulfill the following criteria:

1<sup>st.</sup> You must not have already used any of your 3 simulation credits

2<sup>nd</sup>: Any purchase will cost you 2 simulation credits

Warning: Currency interventions can have major effects on the valuation and volatility of your currency.

Restrictions: You can only purchase or sell a maximum of 50% of the total quantity of currency you already have in your assets.



#### **Commodities: 1 simulation credit**

The purchase and sale of Oil and Gold in Rolesia is done in USD (\$). Therefore it is important to always have reserves in US\$. There are, however, certain restrictions:

Restrictions: You can only purchase or sell a maximum of 50% of the total quantity of commodities you already have in your assets.

#### Quantitive Easing: 1 simulation credit

The purchase and sale of QE Assets must be seen as an action of last resort. If the measure is however justified you will need to be aware of the restrictions. The transaction costs one simulation credit.

#### **Buy QE Assets/Levaraging:**

Interest Rates must be equal or below 1.5% and maximum QE assets must be below absolute GDP to expand Central Bank Balance Sheet.

#### Sell QE Assets/Delevaraging:

Interest Rates are below the 2% required to sell QE assets

#### **Summary:**

Policy: (Fiscal/Monetary): 1 credit

National Transfer\*a): 0 credits

Currencies: 2 credits
Commodities: 1 credit

Quantitive Easing: 1 credit



<sup>\*</sup>a) All reserves exchanges between the federal government budget and the federal reserves.

#### 5.2 1999, The Big Year

1999 is probably the most important year in this model simulation. This is the year in which you adopt the new currency if you fulfill the three criteria agreed upon and signed to in 1993 Maastricht Treaty.

The strategically decisive year in Rolesia is, however, not 1999 but 1998 – one year earlier.

Why? Because in 1998, in order to be able adopt the common currency in 1999 your economy must fulfill the following criteria:

- Inflation < 3%</li>
- Public Deficit < 60% of GDP
- Budget Balance > -3% of GDP

There is a "zero tolerance" policy in this model. You must conform 100% to the criteria or you will be unable to adopt the new currency. Non-compliance with the criteria will result in your country being rejected by the new currency union and your simulation will come to an abrupt end in 1998.

A successful entry into the new currency union in 1999 will enable you to continue your simulation. Then you must abide by the new rules, without exception. You will have entered the post-1998 period with new challenges and less flexibility. Now you will not only have to satisfy your voters but also the monitoring committee, who will be following your policies very closely.

Note: In 2015 this feature will become optional. It will be possible to use this framework without any curreny union.

# 5.3 The Monetary Union And Its Challenges

After reaching the year 1999 and successfully fulfilling the Maastricht Treaty criteria, you will first of all be credited with bonus points.

Now that you are part of the "Monetary Club" you will be faced with the challenge of staying in it. You will need to abide by the convergence criteria as stated below:

- Inflation below 3%
- Public Deficit below 60% of GDP and
- Budget Balance should not surpass -3% of GDP

Your capabilities will be challenged because you will not only have to fulfill the criteria mentioned above, but also meet the needs of your population and of the business community and confront the volatility of the economy itself.



# 5.4 Treaty Breaches And Their Consequences

Every year you fail to fulfil the criteria stipulated by the European Commission you will be penalized by one point in your treaty breach account. If you get more than three points your simulation is <u>over</u>.

See chapter 5.3 to see which criteria need to be fulfilled in order to avoid treaty breaches.





# **6 Points And Rankings**

#### 6.1 How To Score Points

As well as testing your strategic abilities you also need to compete against the rest of the Rolesian community – meaning all the other players that are using the simulation. The community can be limited to your company (corporate or framework version), or it can be all users on the internet world wide in the Web version of the simulation.

#### The effect of every one of your actions on your economy will be measured in points.

In the year 1980 you will start off with 1000 points. Every year you will automatically gain more points according to your success in the simulation. You can, however, also lose points. Your high score will become obsolete a year later if you have a lower score than the previous year.

The following indicators have the greatest effect on your score:

- The national wage index (in comparison with other countries)
- The development index
- The level of industrial output (IBI)
- The public deficit
- The unemployment level

Every 10 years you will be given a bonus. In 1999, should you be successfully accepted into the curreny union, you will receive a very generous one-off bonus. If you do not make it into the curreny union you will never manage to achieve the same amount of points.

Your points will remain valid as long as your simulation is valid. If you delete and renew your simulation only your top score will remain as long as your license is valid.

#### 6.2 You Can Lose Points Too

As mentioned in the previous chapter, you can also lose points in this simulation. If your economy weakens, you lose your competitive advantage over foreign economies. Policy changes may also weaken the social foundation of your society (i.e. the provision of social services, the development index etc) and you will be punished accordingly. Your number of simulation credits or treaty breaches will have no effect on your score.

#### 6.3 Rankings

In Rolesia there are many other simulations, both world-wide and/or within your company. (The company or public institution versions are called Rolesia Corporate or Rolesia Framework).

In order to see how well you are doing you can check the top score at <a href="https://www.rolesia.com/rankings.php">www.rolesia.com/rankings.php</a>

In order to improve your score you will need to refer to the chapter 6.1.



# 7 Tips & Tricks

## 7.1 What To Keep An Eye On (1): Indicators

All economic and financial indicators in 1980 are relatively stable and you will start off on a positive note. The population has just voted you in as the new president and they are optimistic about your future policies.

Over the next four years until the next election you can follow your ratings by keeping an eye on the polls.

The world economies in 1980 are healthy and growing.

Always keep an eye on "Indicators & Analyses" which can be found under "Simulation". They provide indications of economic trends but cannot predict any potentially positive or negative events that may take place in international economies or on the commodities markets.

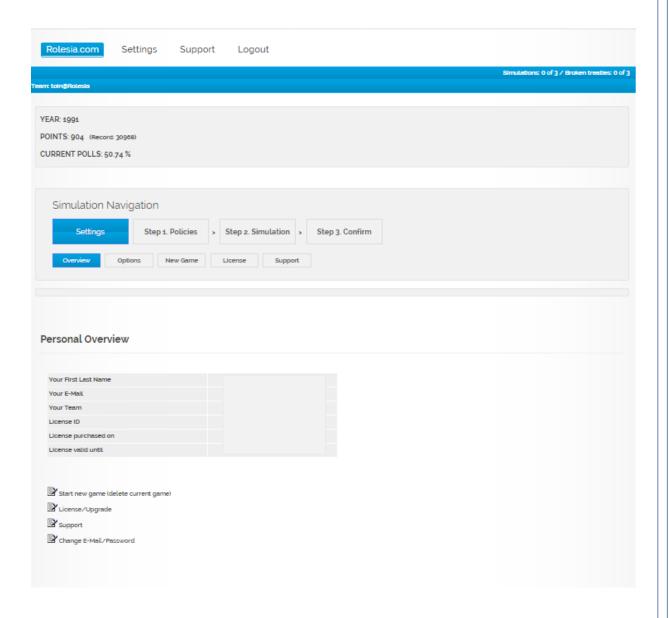
Also keep an eye on the "FED Minutes", which also can also be found under "Simulation". The Central Bank Commission will warn you when you need to adjust interest rates to ensure economic stability. The Central Bank has the power to force you to adjust your policies if it thinks they endanger the economy as a whole.

Analysts tend to follow trends, so be wary of trusting their analyses, and keep an eye on the most important indicators, which will usually give you an indication of whether your economy is healthy, competitive, over-heating or weakening dangerously.



# **8 Managing Your Settings**

In order to manage your personal account you will need to click on the "Settings" tab in the top left corner. The "Settings" section has been created to enable you to obtain further information and configure those properties of your account which are not directly associated with the simulated data of your virtual country. It also is where the important "Options" can be found, where you can activate random numbers, central bank adjustments, quantitive easing, etc.



#### 8.1 Overview

The overview provides you with a summary of all data related to the licensing, deletion and creation of new simulations and to the management of your personal information.



#### 8.2 Licence

The licence information comprises the type of licence (Standard=Demo/Professional/Corporate/Framework) as well as your unique Licence ID, which you will need if you are a Professional or Corporate customer requiring support.

The purchase date and validity indicate the duration of your personal licence.

Licence TYPE / ID: PROFESSIONAL XXXXXXXXX

Licence Purchased: dd/mm/yyyy
Licence valid until: dd/mm/yyyy

By clicking on the "Licence" tab you can check if your licence is valid and when it expires. Please be aware of the fact that your simulation will be automatically deleted one month (1 month) after your simulation's licence has come to an end.

When your simulation expires you have one month to either extend your licence or create a new DEMO simulation (free). During the month after the expiration of your license you will be automatically redirected to the "Licence Expired" page. This is a precautionary measure to ensure that the customer is aware of the termination of the simulation.

## 8.3 Change E-Mail address or Password

To change your e-mail address or password, go to Support then click on click on "Change E-Mail/Password".



#### 8.4 Options

There are currently four options, which are vital to have control over the way the simulation is run in the background.

#### Option 1: FED Auto/Manual

This functionality enables users to decide who has complete control over the adjustment of interest rates.

#### Option 2: Random Numbers ON/OFF

This functionality enables users to decide if the variables (e.g. USD, Commodities) can be partly randomized or not. International parameters will remain partly randomized.

#### Option 3: Quantitive Easing (QE) ON/OFF

This functionality enables the simulator to turn on/off the option for the Central Bank to purchase or sell government bonds in order to influence the national bond yields and currency exchange rates. The simulator defines the amount to be purchased or sold and the purchase or sale is automatically executed. By activating this option you automatically de-activate the possibility to transfer funds between the government budget and central bank reserves.

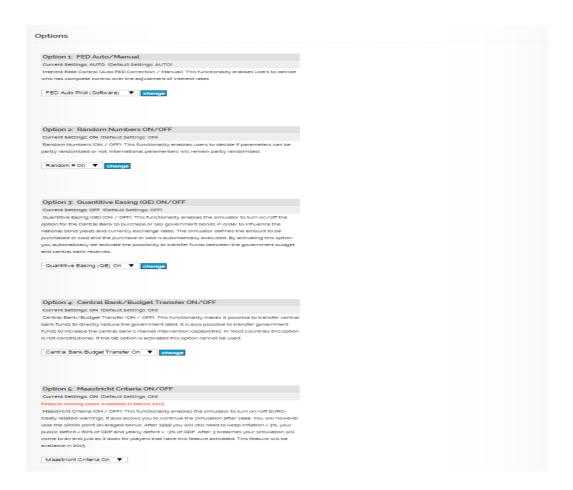
#### Option 4: Central Bank/Budget Transfer ON/OFF

This functionality makes it possible to transfer central bank funds to directly reduce the government debt. It is also possible to transfer government funds to increase the central bank's market intervention capabilities. In most countries this option is not constitutional. If the QE option is activated this option cannot be used.

#### Option 5: Maastricht Criteria ON/OFF (coming in 2015)

This functionality enables the simulator to turn on/off the currency convergence feature and EURO-treaty related warnings. It also allows you to continue the simulation after 1999. You will however lose the 10000 point leveraged bonus. After 1999 you will still need to keep Inflation < 3%, your public deficit < 60% of GDP and yearly deficit > -3% of GDP. After 3 breaches your simulation will come to an end just as it does for players that have this feature activated. This feature will be available in 2015.

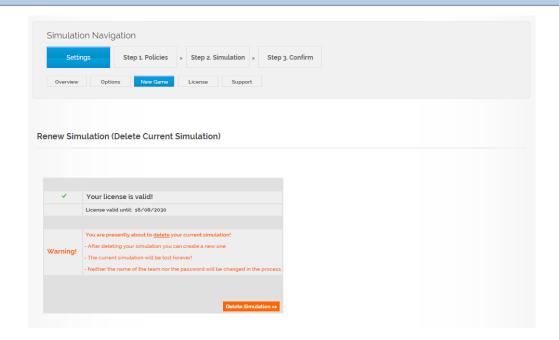




# 8.5 New Game (Renew your simulation)

To renew your simulation proceed to Settings > New Game then click on "Delete Simulation". Please be aware that after clicking on the Delete button that there is no way to retrieve your simulation data.



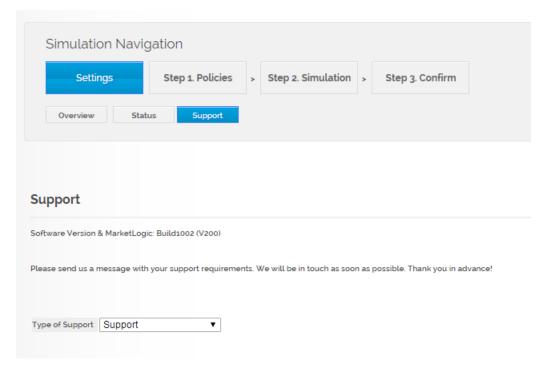


Then click on "Create Simulation" to renew your simulation. Currently only Level 1 is available.





# 8.6 Support



There are different levels of support depending on the type of license you have purchased.

Standard customers are <u>not</u> entitled to e-mail support but can access the forum.

Professional customers are entitled to e-mail support and can also access the forum.

Corporate customers are entitled to e-mail support and can also access the forum. Furthermore, they can extend the contract to include 24/7 e-mail support and service levels for telephone assistance.

Framework customers define in the contractual terms which level of support they require. These will be defined in a service level agreement. The agreement can also include consulting, project management and hosting.

### Software Version

The software version information provides a short summary of the application version running in the background.

### Change your e-mail or password information

If your personal details have changed, you can update your data in this segment. Click on "Change E-Mail/Password".



### 9 All Rolesia Products



#### **Standard License:**

Free version of the Rolesia.com with most features, 10 days subscription, enjoy the strategy simulation!

> Free Version

#### **Professional License:**

Premium version of the Rolesia.com simulation. You will enjoy all features and use your teamname for as long as you decide. Have access to our support and contribute towards the development of this simulation.

**Professional** 

### **Corporate License:**

The Corporate version has been especially designed to meet the needs of our corporate customers. The software includes a coaching area and as many simulator licenses as you need for your closed group.

Corporate



#### Framework License:

The Framework version is for customers with special requirements. The software can be customized according to your needs - from the variables you need to an adapted frontend, algorithms to the change of the simulation logic.

> Framework

#### **Sales Department:**

Please allow us to to consult you and find the best product for your needs. Contact our sales department.

Sales

## 9.1 Rolesia© Web Standard (Free Version) & Professional

This is web version of the Rolesia software for simulators wanting to use the platform for entertainment or training purposes. Economic results can only be achieved through the soundness of a player/trainee's economic policy. The goal is to learn to steer an economy and understand macroeconomics.

Apart from the challenges posed by the ups and downs of global economies, you, as President, will also have to satisfy the population of your country and make unbiased decisions in order to attempt to balance between the interests of the industry and business world and those of the general population.

You will have to meet the needs of your country's business and industrial community, as well as fulfil all the criteria for entry into the Euro Zone in 1999. Every 4 years you will need to gain the vote of the overall population and get at least 50% of the votes.

If you lose the elections, fail to fulfill the Maastrich Criteria, lose control over your economy, your simulation will come to an end and your policies will become history.

There are two different versions of the Rolesia Web software: The professional version (paid version) and the FREE standard version (see below).

#### Rolesia.com Web Standard (Free Version) Product Description

The Rolesia WEB Standard is a free version of the software. It is available to all and can be used for as long as your simulation lasts. This software version includes most of the features of the Professional version except for the following features:

- + Professional macroeconomic simulation
- + Virtual country with over 130 variables
- + Multi-Device Frontend (PC, Tablets, Smartphones Beta)



- + HTML5 Smart Graphs (including multi graph benchmarks)
- + Market Area with stockmarket, rating agencies, debt market, ...
- + Budget Area to monitor your expenditure and revenues
- + World Markets & Currencies
- + Commodities
- + Central Bank & Reserves
- + Demographics
- + Analysts keeping an eye on you
- + The population that poll you yearly and vote for you every 4 years
- + Three simulations a year to correct policies
- + New exciting algorithms and variables: Quanititive Easing, GINI Coefficient, Agency Ratings, and many more.
- + And much more!
- + You can use the simulation for 10 days for free
- + When the simulation has come to an end, your simulation cannot be renewed and your simulation will automatically be deleted after 10 days
- + There will be advertisements in order to help finance the free offering of the software
- + Your nickname will be preceded by the prefix demo, i.e. if you call yourself John, then your nickname will be demojohn
- + You are not entitled to e-mail support. You can, however, consult the forum
- + It is free

Tip: When your simulation has come to an end, you can create a new free account. If you would like to support us, you can also upgrade to the inexpensive Professional Version

### Rolesia.com Web Professional (Paid Version) Product Description

The Rolesia WEB Professional is a paid version of the software. To cover our operational, development & licensing costs we need to charge a subscription fee (or lifetime fee). This paid version covers all features of the software:

- + Professional macroeconomic simulation
- + Virtual country with over 130 variables
- + Multi-Device Frontend (PC, Tablets, Smartphones Beta)
- + HTML5 Smart Graphs (including multi graph benchmarks)
- + Market Area with stockmarket, rating agencies, debt market, ...
- + Budget Area to monitor your expenditure and revenues
- + World Markets & Currencies
- + Commodities
- + Central Bank & Reserves
- + Demographics
- + Analysts keeping an eye on you
- + The population that poll you yearly and vote for you every 4 years
- + Three simulations a year to correct policies
- + New exciting algorithms and variables: Quanititive Easing, GINI Coefficient, Agency Ratings, and many more.
- + And much more!



#### + Further Premium features:

- Options (e.g. Randomized variables, Central Bank manual/auto adjustments, QE)
- Trading Platform (to purchase currencies & commodities)
- Experience new features and variables first
- Keep your points to compete with other Rolesia.com simulators

#### **Professional customers:**

- + No advertisements
- + Unique teamname your teamname will be yours and only yours for the entirety of the simulation
- + 24/7 e-mail support. You can also consult the forum
- + You are supporting the development of Rolesia.com, thank you!

Thank you for supporting us!

#### **Prices**

Professional Prices				
1 Month	3 Months	6 Months	12 Months	Lifetime
9,99 €	24,99€	39,99€	59,99€	79,99 €
				Version 2 available for minimum 3 years

### 9.2 Rolesia<sup>®</sup> Corporate

### Rolesia.com Corporate - Enterprise & Governmental Version

This is an enterprise version of the software for our private corporate and public institution customers.

Both companies, as well as governmental institutions, can use this software to train employees to get a feeling of how economies work, based on many key macroeconomic indicators. The questions any company or governmental institution needs to ask themselves are:

- How can managers make the right decisions if their knowledge is mainly in the field of microeconomics?
- How can the state of the economy affect the results of this company?



A trainee will become familiar with the challenges posed by macroeconomics by learning to steer an economy with the various policy tools provided: i.e. interest rates, fiscal policies etc. There are many factors which have a major effect on the economy: international economic developments, the US economy, oil prices, etc, as well as national factors such as domestic demographic trends.

In the Corporate version there is a further administration or coaching area level to enable coaches to monitor the results of the trainees using the simulation.

#### > Ask Sales for a Corporate DEMO

### Rolesia.com Corporate - The multi-tenancy coaching area

The coaching area for corporate customers is where you can allocate users within your dedicated domain and provide them with a professional license with all features. You define how many simulating trainees you need within your group. Each simulator will compete on the basis of the baseline and starting point in 1980 and the same group-external factors and without random variables. The coach can follow the progress of each and all users and prepares them for the next simulation cycle - which in Rolesia.com is the new year.

### 9.3 Rolesia© Framework

The Rolesia.com Framework version consists of the instutional version of the software - ideal for larger companies and governmental institutions), with all the factors, policies, algorithms and variables left to the client to customize according to their specific requirements. The customer can decide what the platform and all its modules looks like.

This product requires a lot of effort to customize and is only recommended for customers who feel that the current product does not cover their overall needs. We offer consulting services to coordinate project activities and for the implementation.

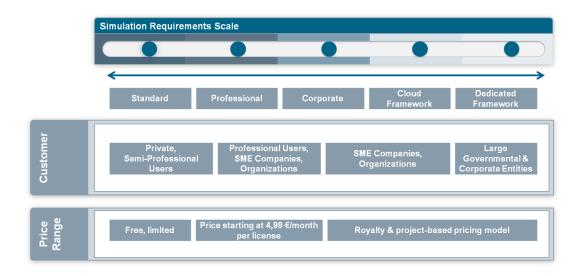
- + The Rolesia.com team will support and consult you with your special requirements:
  - Consulting
  - Project Management activities
  - Senior Software & Business Logic Engineers
  - Infrastructure Requirements (Cloud vs. Local Server, Intranet)
  - Customized Support Packages
- + Hosting Packages (according to your required Service Level Agreemnts)
- + Training Services

Link: www.rolesia.com/products framework.php



## 9.4 Rolesia Sales

Please let us consult you on the best option for your business or institution! Contact us via the form below and we will be in contact soon.



Link: <a href="www.rolesia.com/products">www.rolesia.com/products</a> sales.php



## 10 Support

There are different levels of support depending on the type of license you have purchased.

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Corporate customers are entitled to e-mail support and can also access the forum. Furthermore, they can extend the contract to include 24/7 e-mail support and service levels for telephone assistance.

**Framework customers** define in the **contractual terms** which **level of support** they require. These will be defined in a service level agreement. **The agreement can also include consulting, project management and hosting**.



# 11 Contact

Dear customers if there is any way I can help or if you would like to give me or my team feedback, please do not hesitate in contact me at <a href="mailto:anthony.atherton@rolesia.com">anthony.atherton@rolesia.com</a> or the team at <a href="http://www.rolesia.com/contact.php">http://www.rolesia.com/contact.php</a>

Kind regards and enjoy the simulation, Anthony Atherton



# 12 Appendix: Variables / Indicators

Link: <a href="http://www.rolesia.com/variables.php">http://www.rolesia.com/variables.php</a>

### # International Variables (6)

**US GDP** 

**US Inflation** 

**US Interest Rates** 

**US Average Wage** 

World GDP

World Wage

### # National Variables I (69)

**Child Population** 

**Adult Population** 

**Pension Population** 

**USD** Reserves

**EUR Reserves** 

**Gold Reserves** 

Oil Reserves

Absolute Deficit (Billions EUR)

Unemployment

GDP

Inflation

**Business Wage Demands** 

Current Average Wage

**Industry Sentiment** 

**Consumer Sentiment** 

Development

**Business Confidence** 

Vehicle Ownership



**USD Currency Price** 

Oil Price

Petrol Price

**Gold Price** 

**Industrial Export Quota** 

Commodity Index

Public Deficit (GDP)

**Budget Balance** 

**Housing Starts** 

Housing Price Index

**Interest Rates** 

Income Tax

Corporate Tax

Capital Gains Tax

**Property Tax** 

**Public Services** 

VAT

Petrol Tax

**Child Support** 

Pension Insurance

**Social Security** 

Weekly Working Hours

**National Subsidies** 

**Public Investment** 

**EU Subsidies** 

**World Subsidies** 

Your Rolesia.com Score

Poll Trends

Stockmarket Index

**Investment Indicator** 

Money Supply (M3)

Real Income

Wages Increases

Productivity

**Trade Balance** 

10 Year T-Bond

30 Year Morgage Rate



3 Month Libor Rate

Purchasing Managers Index (PMI)

TED Spread (3 Month)

Government Average Debt Rate

Investor Average Rate Demand

Agency Ratings (%)

Gini coefficient

National Innovation Index

Retirement Age

Active Working Population (%)

Primary Surplus/Deficit

Government R&D

**FED QE Bond Assets** 

**FED Total Assets** 

### # National Variables II (48)

**US/National Wage Ratio** 

**National Absolute Consumption** 

Petrol Production Price

Budget Revenues (Income Tax)

Budget Revenues (Corporate Tax)

Budget Revenues (Capital Gains Tax)

Budget Revenues (Property Tax)

Budget Revenues (Pension Insurance Tax)

Budget Revenues (Interest Tax)

Budget Revenues (Petrol Tax)

Budget Revenues (VAT)

**Budget Revenues (Total)** 

**Budget Expenses (Pensions)** 

Budget Expenses (Unemployment)

Budget Expenses (Child Support)

Budget Expenses (Public Services)

Budget Expenses (Debt Payments)

**Budget Expenses (National Subsidies)** 

**Budget Expenses (Public Investment)** 

Budget Expenses (Government R&D)



**Budget Expenses (EU Subsidies)** 

**Budget Expenses (World Subsidies)** 

Budget Expenses (Total)

Debt Ratio (Natl. Expenses)

**Investor Interest Rate Demands** 

**Financial Sector Growth** 

**Industry & Services Sector Growth** 

Commerce & Retail Sector Growth

**Hosuing Sector Growth** 

**Automotive Sector Growth** 

Real Interest Rate (-Inf.)

**Cumulative GDP** 

**Cumulative Inflation** 

**National Saving Rate** 

Absolute Savings (EUR)

Absolute Private Credit (EUR)

Private Credit/Wage Development

Absolute Public+Private Credit (EUR)

Public+Private Credit/Savings Ratio

Private Credit Change (Y/Y)

Bankrupty Levels (% of companies)

Credit Default Levels (% of outstanding credit)

Absolute GDP (EUR)

**House Valuation** 

Pension Insurance Break Even (%)

Global Effect on IBI

Reserves Effect on USD\$ Price

Consumer Sentiment Change (Y/Y)

## **#Further National Variables (14)**

Income p.a.(gross)

Income p.a.(net)

Pension p.m.

Unemployment p.m.

Petrol (retail)

Car Consumption



World/National Wage Ratio

Analysts Stock Market Fair Value

Consumer Price Inflation

Energy & Commodities Inflation

Money & Asset Inflation

Wage Inflation

Imports Inflation

**Total Federal Reserves Assets** 

