

7see, Vensim published model

Instructions

Version 3 (22 April 2015)

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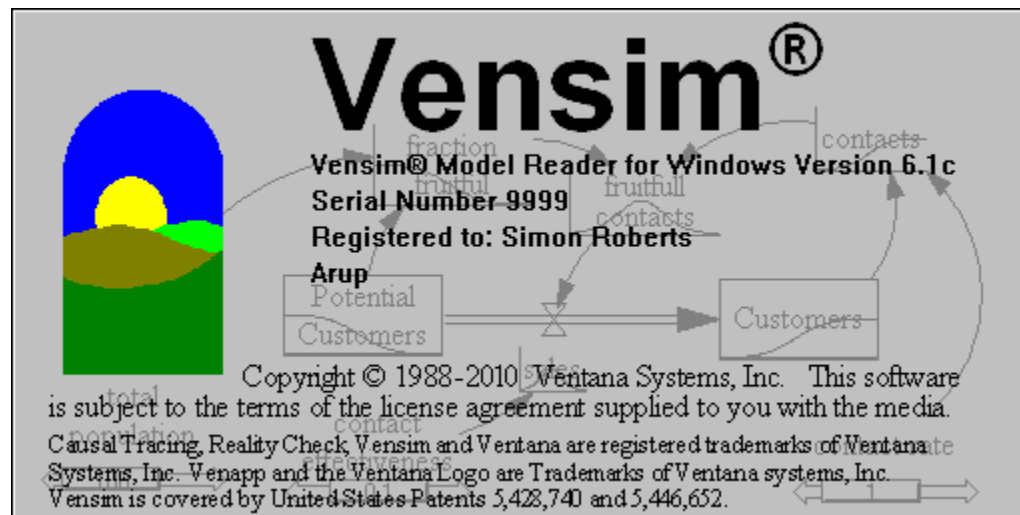
1. Installing the Vensim Model Reader
2. Opening a "published model" (.vpm)
3. Becoming familiar with Vensim's navigation tools
4. Arrangement of views and depth levels
5. Introduction to stocks & flows, "auxiliary" flows and relationship coefficients
6. Exploring two historical calibration models (“...fbc1...” and “...fbc3...”)

1. Install Vensim Model Reader

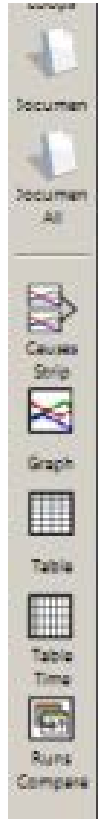
- a) Run `venred32.exe`.
- b) Uncheck boxes so not to receive email updates.

2. Open published model

- a) Start Vensim Model Reader.
- b) File > Open Model... >
141123a_7see5-10-GB_fbc3_non-und-opt_22Apr15.vpm



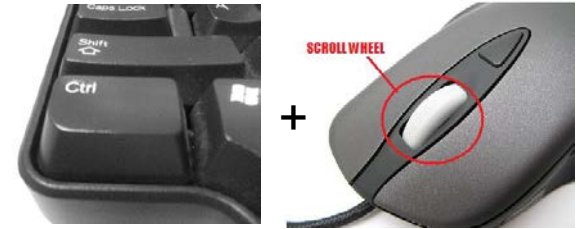
3.1. Summary of useful Vensim navigation tools



details of variable



find & repeat find



zoom

graph variable and causes



graph variable

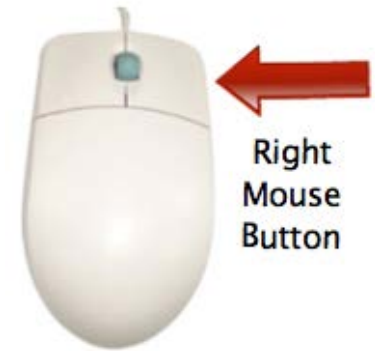
hide all/show all



step through views



up/down one level of depth



pan



3.2. Using Vensim's navigation tools

- a) Use the H key to toggle between show all and hide all. (Leave on hide all.)
- b) Use the zoom and pan controls to find details in a view and zoom in to read what they are.
- c) Use cursor down to reveal more detail.
- d) Use Page Up/Page Down to move between views. (The view you're on is shown at bottom left.)
- e) Click on a variable then click the Graph button on the left to inspect its values over the period 1990-2035.
- f) Click on a variable then F3 to see where else its used.

4.1. Arrangement of views



- The first 6 views are for the 6 industry groupings: agriculture, extractive, utilities, manufacturing, construction, services.
- Next is "d dwlg" for dwellings: their construction, rental and use of fuel.
- View "g GDP" brings together output of 6 industries and investment (FCF) needs of these and dwellings.
- View "h trans" covers all transportation.
- View "j jobs" is for population and employment.
- View "k BoP" brings together all balance of payments.

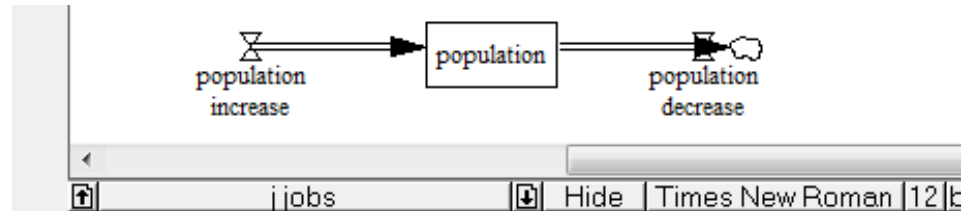
4.2. Arrangement of depth levels



- Hide (level): stocks & flows (system dynamics)
- Depth 2: "auxiliary" flows from stocks
- Depth 4: coefficients that determine relationships
- Depth 8: historical values (blue background)
- Depth 12: CO2 emissions and weighted energy sum
- Show (level): everything

5.1. Introduction to types of stocks & flows: at the Hide depth, use F3 for these stocks

a) "population"

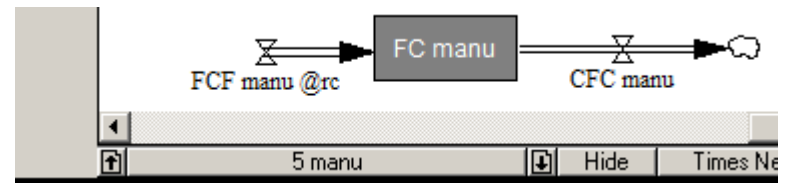


b) "number of cars"

c) "dwlg number pre-SSY" (scenario start year)

d) "FC manu" (fixed capital of manufacturing)

- repeat F3 through "shadow" variables to image on right
- FCF: fixed capital formation
- CFC: consumption of fixed capital



e) "offshore wind generating capacity" (MW units)

f) "CCT generating capacity" (combined cycle turbine)

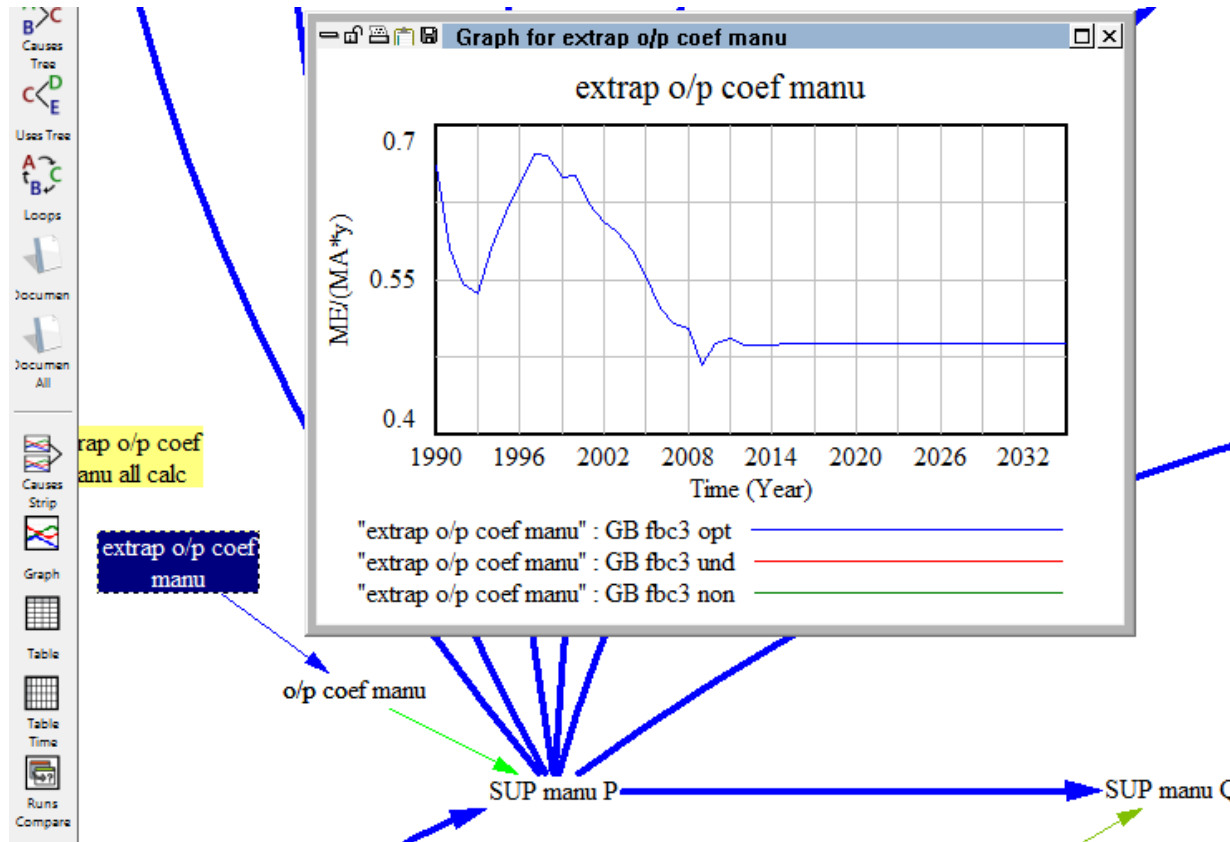
5.2. Introduction to "auxiliary" flows from stocks

- a) F3 "FC manu".
- b) Depth 2 to reveal "SUP manu P" (production as GVA, gross value added, of goods).
- c) From "SUP manu P" depend:
 - "jobs in manu"
 - "elec dmd manu LR" (electricity demand of manufacturing less oil refinery)
 - "thermal energy demand manu LRf"
 - "gas NE demand manu" (not energy, so for materials)
 - "pet-prod NE demand manu" (petroleum products)
 - "coal NE demand manu"

5.3. Introduction to relationship coefficients

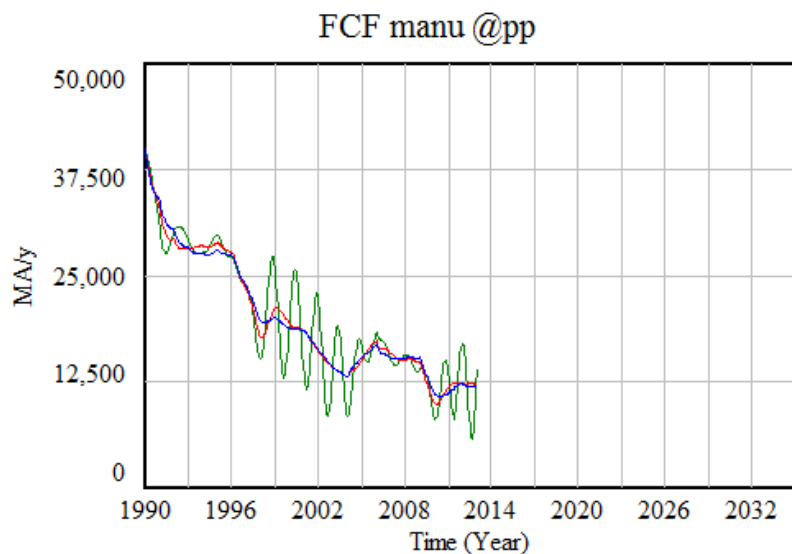
a) Depth 4, F3 "extrap o/p coef manu", "Graph":

- o/p coef manu = extrap o/p coef manu
- SUP manu P = FC manu * o/p coef manu

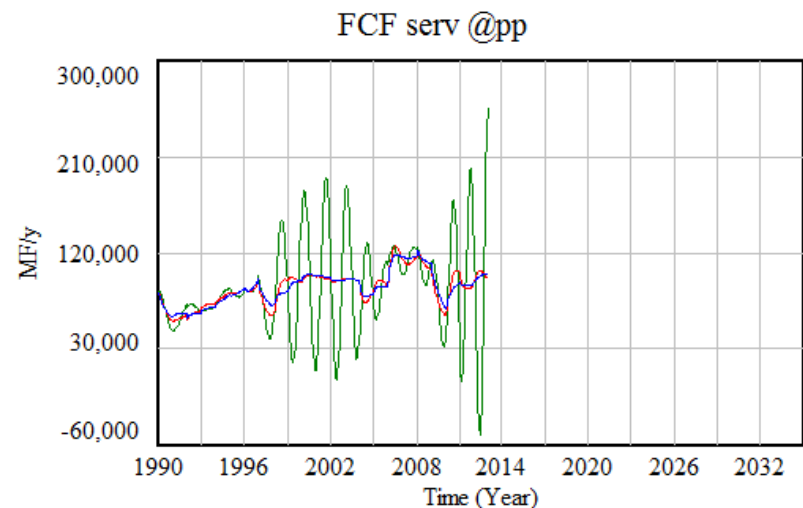


6.1. Exploring FCF for values of feedback damping

- Depth 4, then F3 "FCF manu @pp".
- Depth 4, then F3 "FCF serv @pp".



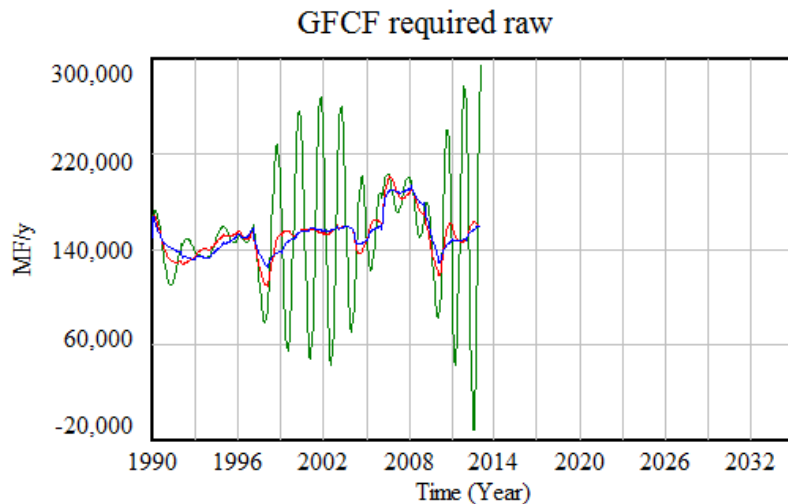
"FCF manu @pp" : GB fbc3 opt
"FCF manu @pp" : GB fbc3 und
"FCF manu @pp" : GB fbc3 non



"FCF serv @pp" : GB fbc3 opt
"FCF serv @pp" : GB fbc3 und
"FCF serv @pp" : GB fbc3 non

6.2. Exploring GFCF for values of feedback damping

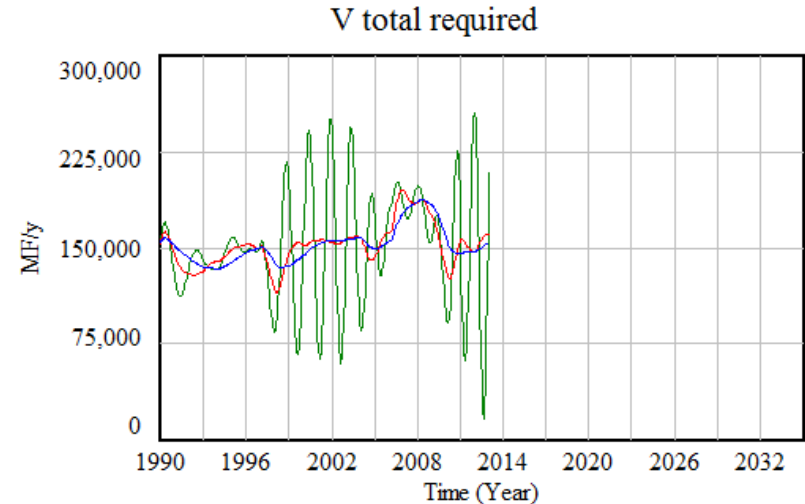
- Depth Hide, then F3 "GFCF required raw".
- Depth Hide, then F3 "V total required".



GFCF required raw : GB fbc3 opt —————

GFCF required raw : GB fbc3 und —————

GFCF required raw : GB fbc3 non —————



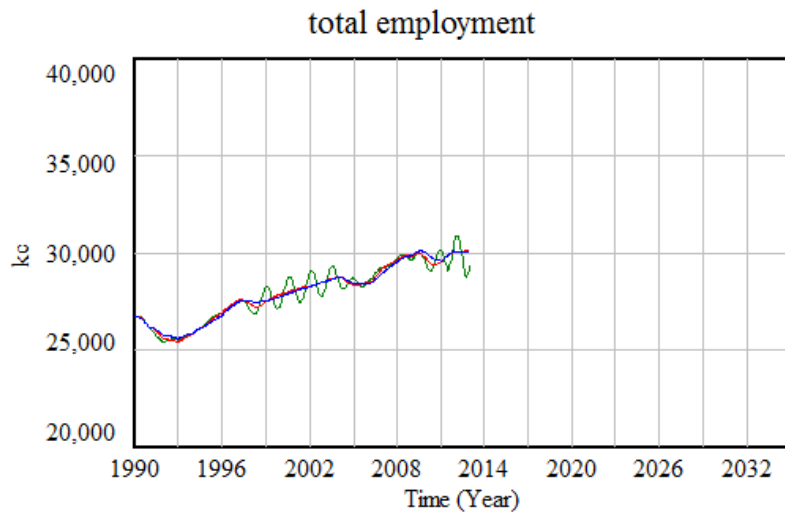
V total required : GB fbc3 opt —————

V total required : GB fbc3 und —————

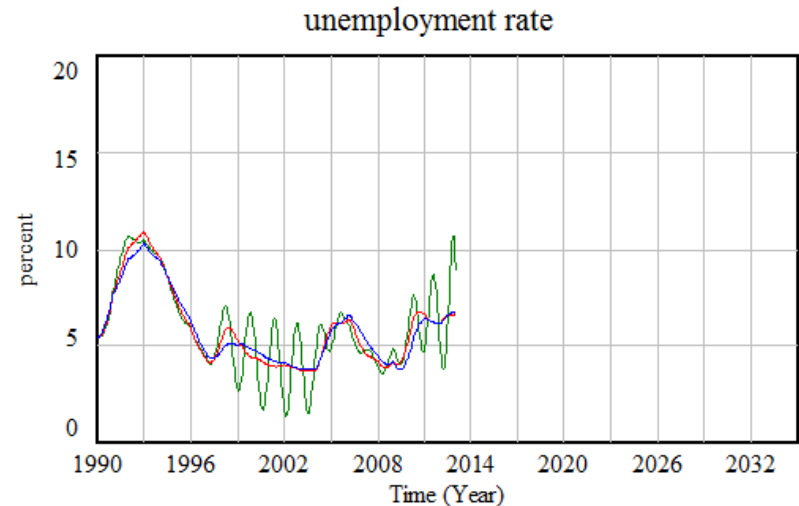
V total required : GB fbc3 non —————

6.3. Exploring unemployment for values of feedback damping

- Depth 2, then F3 "total employment".
- Depth 2, then F3 "unemployment rate".



total employment : GB fbc3 opt —————
total employment : GB fbc3 und —————
total employment : GB fbc3 non —————



unemployment rate : GB fbc3 opt —————
unemployment rate : GB fbc3 und —————
unemployment rate : GB fbc3 non —————

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