**The mathematical presentation of the model**

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| **Prices** |  |
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| **Production technology** |  |
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| **Trade** |  |
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|  |  |
| **Regional Demand** |  |
| **Total Production** |  |
| **Households and other Domestic Institutions** |  |
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| **Government** |  |
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| **Investment Demand** |  |
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| **Time path of investment** |  |
|  | 1. **A** |
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|  |  |
| **Factors accumulation** |  |
|  | 1. **A** |
|  | 1. **A** |
|  | 1. **A** |
|  | 1. **A** |
| **Taxes and subsidies** |  |
|  | 1. **A** |
|  | 1. **A** |
|  | 1. **A** |
| **Total demand for import and current account** |  |
|  | 1. **A** |
|  | 1. **A** |
| **Assets** |  |
|  | 1. **A** |
|  | 1. **A** |
|  | 1. **A** |
| **Steady State conditions** |  |
|  | 1. **A** |
|  | 1. **A** |
|  | 1. **A** |
|  | 1. **A** |
|  | 1. **A** |
|  | 1. **A** |

In order to produce short-run results, we have that

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|  | 1. **A** |
|  | 1. **A** |
|  | 1. **A** |
|  | 1. **A** |
| For FL2 equation (A.33) disappear if *dngins=h. We* also add: |  |
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In order to run the myopic model from the consumption side, equations (A.27) and (A.28) are substitute with the following:

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To obtain the path of investment equations (A.45 – A.48) disappear and we introduce:

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| Alternatively we can use the following: |  |
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Where equal 0.5 in (A.73) and 2 in (A.75)

**Notations**

*i,j* the set of goods or industries

*ins*  the set of institutions

*dins*  the set of domestic institutions

*dngins*  the set of non-government institutions

*h*  the set of households

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| --- | --- |
| *Prices* |  |
|  | output price |
|  | value added price |
|  | regional price |
|  | commodity price |
|  | national commodity price (regional + RUK) |
|  | RUK price |
|  | rate of return to capital |
|  | unified nominal wage |
|  | after tax wage |
|  | capital good price |
|  | user cost of capital |
|  | shadow price of capital |
|  | aggregate consumption price |
|  | aggregate price of Government consumption goods |
|  | exchange rate [fixed] |
|  |  |
| *Endogenous variables* |  |
|  | total output |
|  | Regional supply |
|  | total import |
|  | total export (interregional + international) |
|  | value added |
|  | labour demand |
|  | physical capital demand |
|  | capital stock |
|  | labour supply |
|  | Total intermediate inputs |
|  | regional intermediate inputs |
|  | ROW intermediate inputs |
|  | national intermediate inputs (REG+RUK) |
|  | RUK intermediate inputs |
|  | regional government expenditure |
|  | government expenditure( RUK+ROW) |
|  | aggregated household consumption |
|  | total households consumption in sector *i* for *h* |
|  | regional consumption in sector *i* for group *h* |
|  | import consumption in sector *i* for group *h* |
|  | total investment by sector of origin *i* |
|  | regional investment by sector of origin *i* |
|  | ROW investment demand |
|  | national investment (REG+RUK) |
|  | RUK investment demand |
|  | investment by sector of destination *j* |
|  | investment by destination *j* with adjustment cost |
|  | regional unemployment rate |
|  | marginal net revenue of capital |
|  | domestic non-government saving |
|  | domestic non-government income |
|  | transfer among *dngins* |
|  | total household tax |
|  | current account balance |
|  | production subsidies |
|  | income tax revenue |
|  | fiscal deficit |
|  |  |
| *Exogenous variables* |  |
|  | remittance for *dngins* |
|  | remittance for the Government |
|  | government expenditure |
|  | government saving |
|  | interest rate |
|  | government borrowing |
|  | foreign debt |
|  |  |
| *Elasticities* |  |
|  | constant elasticity of marginal utility |
|  | Elasticity of substitution between intermediate and value-added |
|  | between labour and capital in sector *j* |
|  | in Armington function |
|  | of export with respect to term of trade |
|  | of real wage with respect to unemployment rate |
|  |  |
| *Parameters* |  |
|  | Input-output coefficients for *i* used in *j* |
|  | share of value added on production |
|  | shares in value added function in sector *j* |
|  | shares parameters in CES function for intermediate goods |
|  | shares parameters in CES function for investment goods |
|  | shares parameters in CES function for households consumption |
|  | share value for government consumption |
|  | shift parameter in CES functions for intermediate goods |
|  | shift parameter in CES function for households consumption goods |
|  | business tax |
|  | rate of production subsidy |
|  | rate of import tax |
|  | physical capital matrix |
|  | rate of saving in institutions *dngins* |
| *ssce* | rate of social security paid by employees |
| *sscer* | rate of social security paid by employer |
| *ire* | rate of income tax |
|  | pure rate of consumer time preference |
| *bb* | rate of distortion or incentive to investment |
|  | rate of depreciation |