# Discussion of "Sovereign Debt Risk Premia and Fiscal Policy in Sweden"

#### **Per Krusell** Institute for International Economic Studies (Stockholms Universitet)

June 2010

Per KrusellInstitute for International EconorDiscussion of "Sovereign Debt Risk Premia a

# The purpose of the paper

# To think about how sovereign debt default premia and debt sustainability are related,

Coherent: using a dynamic stochastic general-equilibrium (DSGE) model

Coherent: using a dynamic stochastic general-equilibrium (DSGE) model (i.e., "modern macro": makes sense to me...).

Coherent: using a dynamic stochastic general-equilibrium (DSGE) model (i.e., "modern macro": makes sense to me...).

Quantitative: the DSGE model uses parameters restricted by data (estimated/calibrated).

Coherent: using a dynamic stochastic general-equilibrium (DSGE) model (i.e., "modern macro": makes sense to me...).

Quantitative: the DSGE model uses parameters restricted by data (estimated/calibrated).

Case study for Sweden:

Coherent: using a dynamic stochastic general-equilibrium (DSGE) model (i.e., "modern macro": makes sense to me...).

Quantitative: the DSGE model uses parameters restricted by data (estimated/calibrated).

Case study for Sweden:

Examine the effects on fiscal limits and risk premia of different fiscal rules, modeled after some features of the Swedish system (such as a debt ceiling).

Coherent: using a dynamic stochastic general-equilibrium (DSGE) model (i.e., "modern macro": makes sense to me...).

Quantitative: the DSGE model uses parameters restricted by data (estimated/calibrated).

Case study for Sweden:

- Examine the effects on fiscal limits and risk premia of different fiscal rules, modeled after some features of the Swedish system (such as a debt ceiling).
- **2** Simulate the model to replicate the Swedish 1991-97 experience.

Per KrusellInstitute for International EconorDiscussion of "Sovereign Debt Risk Premia a

Here: "neoclassical" (Keynesian) model

Here: "neoclassical" (Keynesian) model, and cycles driven by technology shocks.

Here: "neoclassical" (Keynesian) model, and cycles driven by technology shocks.

Here: "neoclassical" (Keynesian) model, and cycles driven by technology shocks.

Such models of government debt accumulation: strangely enough, relatively little done with quantitative DSGE models.

• Without default: candidate qualitative arguments based on non-Keynesian features are

Here: "neoclassical" (Keynesian) model, and cycles driven by technology shocks.

- Without default: candidate qualitative arguments based on non-Keynesian features are
  - Ricardian equivalence

Here: "neoclassical" (Keynesian) model, and cycles driven by technology shocks.

- Without default: candidate qualitative arguments based on non-Keynesian features are
  - Ricardian equivalence
  - tax smoothing

Here: "neoclassical" (Keynesian) model, and cycles driven by technology shocks.

- Without default: candidate qualitative arguments based on non-Keynesian features are
  - Ricardian equivalence
  - tax smoothing
  - intergenerational issues and political economy.

Here: "neoclassical" (Keynesian) model, and cycles driven by technology shocks.

Such models of government debt accumulation: strangely enough, relatively little done with quantitative DSGE models.

- Without default: candidate qualitative arguments based on non-Keynesian features are
  - Ricardian equivalence
  - tax smoothing
  - intergenerational issues and political economy.

Debt just does not seem to have been such a big issue?

Here: "neoclassical" (Keynesian) model, and cycles driven by technology shocks.

Such models of government debt accumulation: strangely enough, relatively little done with quantitative DSGE models.

- Without default: candidate qualitative arguments based on non-Keynesian features are
  - Ricardian equivalence
  - tax smoothing
  - intergenerational issues and political economy.

Debt just does not seem to have been such a big issue? Well here (for Finanspolitiska Rådet) and now it is!

Here: "neoclassical" (Keynesian) model, and cycles driven by technology shocks.

Such models of government debt accumulation: strangely enough, relatively little done with quantitative DSGE models.

- Without default: candidate qualitative arguments based on non-Keynesian features are
  - Ricardian equivalence
  - tax smoothing
  - intergenerational issues and political economy.

Debt just does not seem to have been such a big issue? Well here (for Finanspolitiska Rådet) and now it is!

This paper: tax smoothing.

Here: "neoclassical" (Keynesian) model, and cycles driven by technology shocks.

Such models of government debt accumulation: strangely enough, relatively little done with quantitative DSGE models.

- Without default: candidate qualitative arguments based on non-Keynesian features are
  - Ricardian equivalence
  - tax smoothing
  - intergenerational issues and political economy.

Debt just does not seem to have been such a big issue? Well here (for Finanspolitiska Rådet) and now it is!

This paper: tax smoothing.

Also: built-in automatic stabilizers (though the model is not of the Keynesian variety where "demand" helps).

• With default as an option for the government. Most relevant in the sovereign-debt literature.

- With default as an option for the government. Most relevant in the sovereign-debt literature.
  - Bulow-Rogoff (1989): very hard to explain sovereign borrowing because borrowers would always want to default.

- With default as an option for the government. Most relevant in the sovereign-debt literature.
  - Bulow-Rogoff (1989): very hard to explain sovereign borrowing because borrowers would always want to default.
  - Chatterjee-Corbae-Nakajima-Ríos-Rull (2007): in application for consumer borrowing, find ways to model costs of default and some consumers (with really "unlucky" income shocks) will rationally default (Ch. 11). Lenders rational too, charge premium.

- With default as an option for the government. Most relevant in the sovereign-debt literature.
  - Bulow-Rogoff (1989): very hard to explain sovereign borrowing because borrowers would always want to default.
  - Chatterjee-Corbae-Nakajima-Ríos-Rull (2007): in application for consumer borrowing, find ways to model costs of default and some consumers (with really "unlucky" income shocks) will rationally default (Ch. 11). Lenders rational too, charge premium.
  - Arellano (2008): applies Chatterjee et al. to countries, which then choose to default. Successful, truly quantitative literature.

- With default as an option for the government. Most relevant in the sovereign-debt literature.
  - Bulow-Rogoff (1989): very hard to explain sovereign borrowing because borrowers would always want to default.
  - Chatterjee-Corbae-Nakajima-Ríos-Rull (2007): in application for consumer borrowing, find ways to model costs of default and some consumers (with really "unlucky" income shocks) will rationally default (Ch. 11). Lenders rational too, charge premium.
  - Arellano (2008): applies Chatterjee et al. to countries, which then choose to default. Successful, truly quantitative literature.

This paper:

- With default as an option for the government. Most relevant in the sovereign-debt literature.
  - Bulow-Rogoff (1989): very hard to explain sovereign borrowing because borrowers would always want to default.
  - Chatterjee-Corbae-Nakajima-Ríos-Rull (2007): in application for consumer borrowing, find ways to model costs of default and some consumers (with really "unlucky" income shocks) will rationally default (Ch. 11). Lenders rational too, charge premium.
  - Arellano (2008): applies Chatterjee et al. to countries, which then choose to default. Successful, truly quantitative literature.

This paper:

• says the Arellano approach leads to too much default quantitatively (does not seem right to me!);

- With default as an option for the government. Most relevant in the sovereign-debt literature.
  - Bulow-Rogoff (1989): very hard to explain sovereign borrowing because borrowers would always want to default.
  - Chatterjee-Corbae-Nakajima-Ríos-Rull (2007): in application for consumer borrowing, find ways to model costs of default and some consumers (with really "unlucky" income shocks) will rationally default (Ch. 11). Lenders rational too, charge premium.
  - Arellano (2008): applies Chatterjee et al. to countries, which then choose to default. Successful, truly quantitative literature.

This paper:

- says the Arellano approach leads to too much default quantitatively (does not seem right to me!);
- is based more on "default whenever debt is higher than what can be sustained";

- With default as an option for the government. Most relevant in the sovereign-debt literature.
  - Bulow-Rogoff (1989): very hard to explain sovereign borrowing because borrowers would always want to default.
  - Chatterjee-Corbae-Nakajima-Ríos-Rull (2007): in application for consumer borrowing, find ways to model costs of default and some consumers (with really "unlucky" income shocks) will rationally default (Ch. 11). Lenders rational too, charge premium.
  - Arellano (2008): applies Chatterjee et al. to countries, which then choose to default. Successful, truly quantitative literature.

This paper:

- says the Arellano approach leads to too much default quantitatively (does not seem right to me!);
- is based more on "default whenever debt is higher than what can be sustained";
- and default is not modeled as an active decision.

- With default as an option for the government. Most relevant in the sovereign-debt literature.
  - Bulow-Rogoff (1989): very hard to explain sovereign borrowing because borrowers would always want to default.
  - Chatterjee-Corbae-Nakajima-Ríos-Rull (2007): in application for consumer borrowing, find ways to model costs of default and some consumers (with really "unlucky" income shocks) will rationally default (Ch. 11). Lenders rational too, charge premium.
  - Arellano (2008): applies Chatterjee et al. to countries, which then choose to default. Successful, truly quantitative literature.

This paper:

- says the Arellano approach leads to too much default quantitatively (does not seem right to me!);
- is based more on "default whenever debt is higher than what can be sustained";
- and default is not modeled as an active decision.

Key question, then: how much debt can be sustained?



- Present value of
- Ithe maximum tax revenues (top of the "Laffer curve")

- Present value of
- Ithe maximum tax revenues (top of the "Laffer curve")
- initial minus necessary expenditures

#### Equal to the

- Present value of
- Ithe maximum tax revenues (top of the "Laffer curve")
- initial minus necessary expenditures.

#### Equal to the

- Present value of
- Ithe maximum tax revenues (top of the "Laffer curve")
- immus necessary expenditures.

Comments on these, one by one:

• Present value calculated using a r - g (real interest rate net rate of output growth) of 5%.

#### Equal to the

- Present value of
- Ithe maximum tax revenues (top of the "Laffer curve")
- iminus necessary expenditures.

Comments on these, one by one:

• Present value calculated using a r - g (real interest rate net rate of output growth) of 5%. My comments:

#### Equal to the

- Present value of
- Ithe maximum tax revenues (top of the "Laffer curve")
- iminus necessary expenditures.

- Present value calculated using a r g (real interest rate net rate of output growth) of 5%. My comments:
  - 5% is WAY too big. Gives much too low debt sustainability.

#### Equal to the

- Present value of
- Ithe maximum tax revenues (top of the "Laffer curve")
- iminus necessary expenditures.

- Present value calculated using a r g (real interest rate net rate of output growth) of 5%. My comments:
  - 5% is WAY too big. Gives much too low debt sustainability.
  - 1% much more reasonable. Multiply all debt numbers by 5!

#### Equal to the

- Present value of
- Ithe maximum tax revenues (top of the "Laffer curve")
- iminus necessary expenditures.

- Present value calculated using a r g (real interest rate net rate of output growth) of 5%. My comments:
  - 5% is WAY too big. Gives much too low debt sustainability.
  - 1% much more reasonable. Multiply all debt numbers by 5!
- Or Top of Laffer curve: by taxing labor only. In reality, less distortionary taxes are available too (consumption, wealth, nominal assets).

#### Equal to the

- Present value of
- Ithe maximum tax revenues (top of the "Laffer curve")
- initial minus necessary expenditures

- Present value calculated using a r g (real interest rate net rate of output growth) of 5%. My comments:
  - 5% is WAY too big. Gives much too low debt sustainability.
  - 1% much more reasonable. Multiply all debt numbers by 5!
- Or Top of Laffer curve: by taxing labor only. In reality, less distortionary taxes are available too (consumption, wealth, nominal assets).
- Necessary expenditures: government spending and transfers are assumed exogenous. Does not make sense—look at Latvia!

Per KrusellInstitute for International EconorDiscussion of "Sovereign Debt Risk Premia a

#### A few other comments:

 Model is not quite coherent. (Default does not literally occur when the government cannot pay back.)

- Model is not quite coherent. (Default does not literally occur when the government cannot pay back.)
- Paper: if default, default on 10% (exogenous). Unsatisfactory (but so is general idea that default is not a choice).

- Model is not quite coherent. (Default does not literally occur when the government cannot pay back.)
- Paper: if default, default on 10% (exogenous). Unsatisfactory (but so is general idea that default is not a choice).
- Missing: welfare, political constraints and political signaling.

- Model is not quite coherent. (Default does not literally occur when the government cannot pay back.)
- Paper: if default, default on 10% (exogenous). Unsatisfactory (but so is general idea that default is not a choice).
- Missing: welfare, political constraints and political signaling. Summary critique:
  - Too many ???s for me to take the quantitative results seriously.

- Model is not quite coherent. (Default does not literally occur when the government cannot pay back.)
- Paper: if default, default on 10% (exogenous). Unsatisfactory (but so is general idea that default is not a choice).
- Missing: welfare, political constraints and political signaling. Summary critique:
  - **O** Too many ???s for me to take the quantitative results seriously.
  - Output: "Output: Content of the second se

#### A few other comments:

- Model is not quite coherent. (Default does not literally occur when the government cannot pay back.)
- Paper: if default, default on 10% (exogenous). Unsatisfactory (but so is general idea that default is not a choice).
- Missing: welfare, political constraints and political signaling. Summary critique:
  - **O** Too many ???s for me to take the quantitative results seriously.
  - Of the second second

Summary praise:

#### A few other comments:

- Model is not quite coherent. (Default does not literally occur when the government cannot pay back.)
- Paper: if default, default on 10% (exogenous). Unsatisfactory (but so is general idea that default is not a choice).
- Missing: welfare, political constraints and political signaling.
  Summary critique:
  - **O** Too many ???s for me to take the quantitative results seriously.
  - Of a "Default when unsustainable" approach: would lead to defaults only with huge debts. In reality, defaults occur earlier. Does Greece really want to pay back? Quite possibly not.

#### Summary praise:

Ambitious in other ways—hard literature!

#### A few other comments:

- Model is not quite coherent. (Default does not literally occur when the government cannot pay back.)
- Paper: if default, default on 10% (exogenous). Unsatisfactory (but so is general idea that default is not a choice).
- Missing: welfare, political constraints and political signaling.
  Summary critique:
  - **O** Too many ???s for me to take the quantitative results seriously.
  - Default when unsustainable" approach: would lead to defaults only with huge debts. In reality, defaults occur earlier. Does Greece really want to pay back? Quite possibly not.

#### Summary praise:

- Ambitious in other ways—hard literature!
- The quantitative literature is really very scant. (Great opportunities for research to have impact!)

#### A few other comments:

- Model is not quite coherent. (Default does not literally occur when the government cannot pay back.)
- Paper: if default, default on 10% (exogenous). Unsatisfactory (but so is general idea that default is not a choice).
- Missing: welfare, political constraints and political signaling.
  Summary critique:
  - **O** Too many ???s for me to take the quantitative results seriously.
  - Default when unsustainable" approach: would lead to defaults only with huge debts. In reality, defaults occur earlier. Does Greece really want to pay back? Quite possibly not.

#### Summary praise:

- Ambitious in other ways—hard literature!
- On the quantitative literature is really very scant. (Great opportunities for research to have impact!)
- Laffer-curve computations useful. Need to distinguish "not being able to pay back" from "not wanting to". Key in practice!