Macroprudential Leakages: Discussion

Roberto Chang

Rutgers University and NBER

May 2021

Motivation and Main Questions

Motivation and Main Questions

- Literature on macroprudential policy (and more generally, on financial regulation) has by and large "abstracted from imperfect enforcement"

Motivation and Main Questions

- Literature on macroprudential policy (and more generally, on financial regulation) has by and large "abstracted from imperfect enforcement"
- The paper proposes a framework to study questions such as:

Motivation and Main Questions

- Literature on macroprudential policy (and more generally, on financial regulation) has by and large "abstracted from imperfect enforcement"
- The paper proposes a framework to study questions such as:
    1. How does macroprudential policy work in the presence of *leakages*?

Motivation and Main Questions

- Literature on macroprudential policy (and more generally, on financial regulation) has by and large "abstracted from imperfect enforcement"
- The paper proposes a framework to study questions such as:
  1. How does macroprudential policy work in the presence of *leakages*?
  2. Does macroprudential policy remain effective or desirable?

Motivation and Main Questions

- Literature on macroprudential policy (and more generally, on financial regulation) has by and large "abstracted from imperfect enforcement"
- The paper proposes a framework to study questions such as:
    1. How does macroprudential policy work in the presence of *leakages*?
    2. Does macroprudential policy remain effective or desirable?
    3. What is *the* optimal policy when there are leakages?

Framework for the Analysis

Small open economy model with now standard features:

- Agents are endowed with tradables and nontradables
- Occasionally binding borrowing constraints
- Borrowing constraints depend on real exchange rate
- Pecuniary externalities may justify taxes or subsidies on external borrowing

Framework for the Analysis

Small open economy model with now standard features:

- Agents are endowed with tradables and nontradables
- Occasionally binding borrowing constraints
- Borrowing constraints depend on real exchange rate
- Pecuniary externalities may justify taxes or subsidies on external borrowing

Main twist: only a subset of agents pay taxes

Key Implications

Key Implications

1. **Substitutability**: if *regulated* agents reduce borrowing, *unregulated* ones have an incentive to increase theirs

Key Implications

1. **Substitutability**: if *regulated* agents reduce borrowing, *unregulated* ones have an incentive to increase theirs
2. Why? Because the future real exchange rate becomes generally stronger, relaxing future borrowing constraints, and inducing higher consumption now

Key Implications

1. **Substitutability**: if *regulated* agents reduce borrowing, *unregulated* ones have an incentive to increase theirs
2. Why? Because the future real exchange rate becomes generally stronger, relaxing future borrowing constraints, and inducing higher consumption now
3. Substitutability $==>$ taxes become *less effective* in curbing borrowing

Key Implications

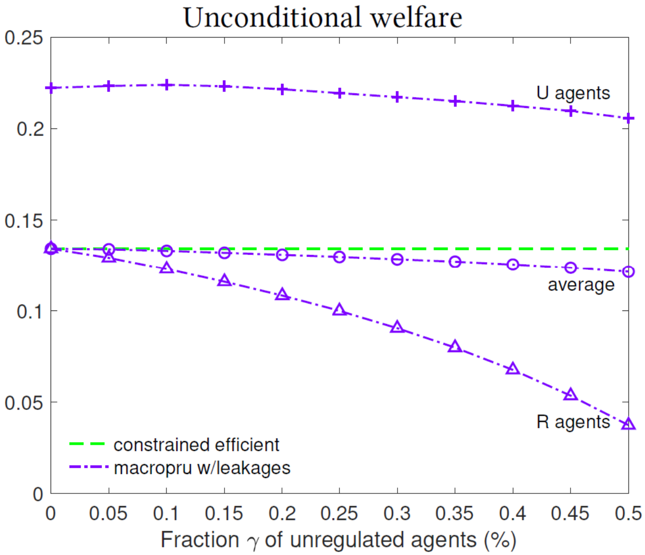
1. **Substitutability**: if *regulated* agents reduce borrowing, *unregulated* ones have an incentive to increase theirs
2. Why? Because the future real exchange rate becomes generally stronger, relaxing future borrowing constraints, and inducing higher consumption now
3. Substitutability $==>$ taxes become *less effective* in curbing borrowing
4. **Macroprudential policy remains useful**, however, in dealing with pecuniary externalities

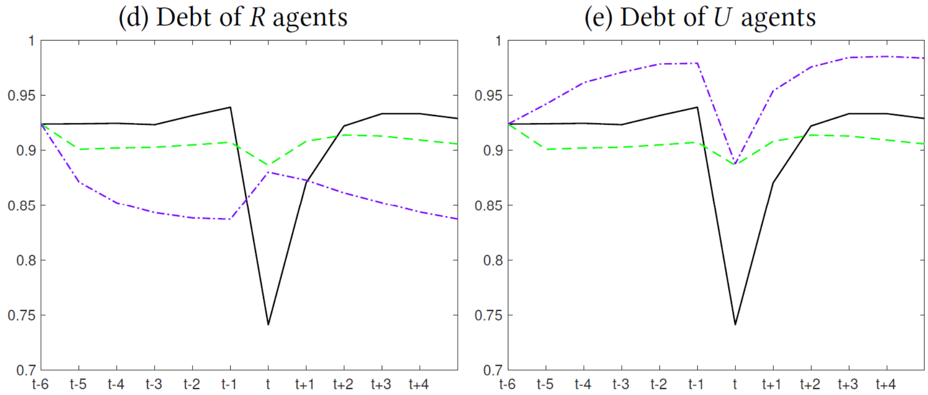
Key Implications

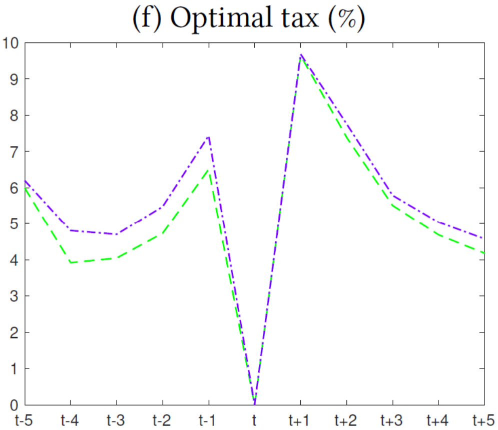
1. **Substitutability**: if *regulated* agents reduce borrowing, *unregulated* ones have an incentive to increase theirs
2. Why? Because the future real exchange rate becomes generally stronger, relaxing future borrowing constraints, and inducing higher consumption now
3. Substitutability $==>$ taxes become *less effective* in curbing borrowing
4. **Macroprudential policy remains useful**, however, in dealing with pecuniary externalities
5. A (utilitarian) planner would require **higher levels of taxation** than in the absence of leakages

Key Implications

1. **Substitutability**: if *regulated* agents reduce borrowing, *unregulated* ones have an incentive to increase theirs
2. Why? Because the future real exchange rate becomes generally stronger, relaxing future borrowing constraints, and inducing higher consumption now
3. Substitutability $==>$ taxes become *less effective* in curbing borrowing
4. **Macroprudential policy remains useful**, however, in dealing with pecuniary externalities
5. A (utilitarian) planner would require **higher levels of taxation** than in the absence of leakages
6. "Average welfare gains are stable with respect to leakages" but they are "**spread unevenly**"


Unconditional welfare
0.25
0.2
0.15
0.1
0.05
0
U agents
average
R agents
constrained efficient
macropru w/leakages
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
Fraction γ of unregulated agents (%)


(d) Debt of R agents
(e) Debt of U agents
1
0.95
0.9
0.85
0.8
0.75
0.7
t-6
t-5
t-4
t-3
t-2
t-1
t
t+1
t+2
t+3
t+4


(f) Optimal tax (%)
10
9
8
7
6
5
4
3
2
1
0
t-5
t-4
t-3
t-2
t-1
t
t+1
t+2
t+3
t+4
t+5

Some Points for Discussion

Some Points for Discussion

- Instructive exercise, nicely executed, useful to keep in mind when thinking about policy

Some Points for Discussion

- Instructive exercise, nicely executed, useful to keep in mind when thinking about policy
- Makes me think about some more basic issues:

Some Points for Discussion

- Instructive exercise, nicely executed, useful to keep in mind when thinking about policy
- Makes me think about some more basic issues:
  1. Does the model capture the main constraints that imperfect policy enforcement place on macroprudential policy?

Some Points for Discussion

- Instructive exercise, nicely executed, useful to keep in mind when thinking about policy
- Makes me think about some more basic issues:
  1. Does the model capture the main constraints that imperfect policy enforcement place on macroprudential policy?
  2. For whom is optimal policy in fact "optimal"?

Imperfect Enforcement and Leakages

Imperfect Enforcement and Leakages

- In this model, a subset of agents is *permanently outside* the reach of the taxing authorities

Imperfect Enforcement and Leakages

- In this model, a subset of agents is *permanently outside* the reach of the taxing authorities
- Perhaps best viewed as a model of informal or illegal sectors?

Imperfect Enforcement and Leakages

- In this model, a subset of agents is *permanently outside* the reach of the taxing authorities
- Perhaps best viewed as a model of informal or illegal sectors?
- But unregulated (law-breaking) agents are assumed to have *the same access* to international financial markets as regulated (law-abiding) ones. (*Crucial* for the paper's results.)

Imperfect Enforcement and Leakages

- In this model, a subset of agents is *permanently outside* the reach of the taxing authorities
- Perhaps best viewed as a model of informal or illegal sectors?
- But unregulated (law-breaking) agents are assumed to have *the same access* to international financial markets as regulated (law-abiding) ones. (*Crucial* for the paper's results.)
- Does this capture the main leakages that financial regulatores are or should be concerned with?

Imperfect Enforcement and Leakages

- In this model, a subset of agents is *permanently outside* the reach of the taxing authorities
- Perhaps best viewed as a model of informal or illegal sectors?
- But unregulated (law-breaking) agents are assumed to have *the same access* to international financial markets as regulated (law-abiding) ones. (*Crucial* for the paper's results.)
- Does this capture the main leakages that financial regulatores are or should be concerned with?
- Alternative perspective: financial market participants react to macroprudential taxes by resorting to costly financial engineering schemes, by switching investments, or even plain tax evasion (but at a cost of possible punishment, and also reduced access to foreign finance).

Important Examples

1. Taxing Short Term Capital (Chile): Did it only induce a (perhaps costly) change in the composition of flows?
2. Bank Regulation and Shadow Banking
3. Derivatives and Capital Flows: As Garber wrote in 1998, the concern is that

> *...derivatives can be used to evade risk-control or prudential regulation, circumvent capital controls, drive the dynamics of currency instabilities, and obscure true risk positions and thereby undermine the usefulness of balance of payments capital account categories.*

The Size of the Unregulated Sector

The Size of the Unregulated Sector

- The paper argues that the fraction of unregulated agents, γ, could be *made endogenous* by assuming that agents choose, at the beginning of time, whether to abide by regulations or not

The Size of the Unregulated Sector

- The paper argues that the fraction of unregulated agents, γ, could be *made endogenous* by assuming that agents choose, at the beginning of time, whether to abide by regulations or not
- Although very limited, this is a step in the right direction

The Size of the Unregulated Sector

- The paper argues that the fraction of unregulated agents, γ, could be *made endogenous* by assuming that agents choose, at the beginning of time, whether to abide by regulations or not
- Although very limited, this is a step in the right direction
- But then the paper argues that "any exogenous γ" can emerge by a suitable choice of the distribution of circumvention costs

The Size of the Unregulated Sector

- The paper argues that the fraction of unregulated agents, γ, could be *made endogenous* by assuming that agents choose, at the beginning of time, whether to abide by regulations or not
- Although very limited, this is a step in the right direction
- But then the paper argues that "any exogenous γ" can emerge by a suitable choice of the distribution of circumvention costs
- Then what is endogenous is that distribution, not γ

The Size of the Unregulated Sector

- The paper argues that the fraction of unregulated agents, γ, could be *made endogenous* by assuming that agents choose, at the beginning of time, whether to abide by regulations or not
- Although very limited, this is a step in the right direction
- But then the paper argues that "any exogenous γ" can emerge by a suitable choice of the distribution of circumvention costs
- Then what is endogenous is that distribution, not γ
- The crucial question is how the possibility of agents choosing to comply with regulation places constraints on macroprudential policy options

On the Meaning of "Socially Optimal"

- The social planner maximizes a population weighted sum of the utilities of regulated and unregulated agents

On the Meaning of "Socially Optimal"

- The social planner maximizes a population weighted sum of the utilities of regulated and unregulated agents
- But in the model regulated and unregulated agents are not the same

On the Meaning of "Socially Optimal"

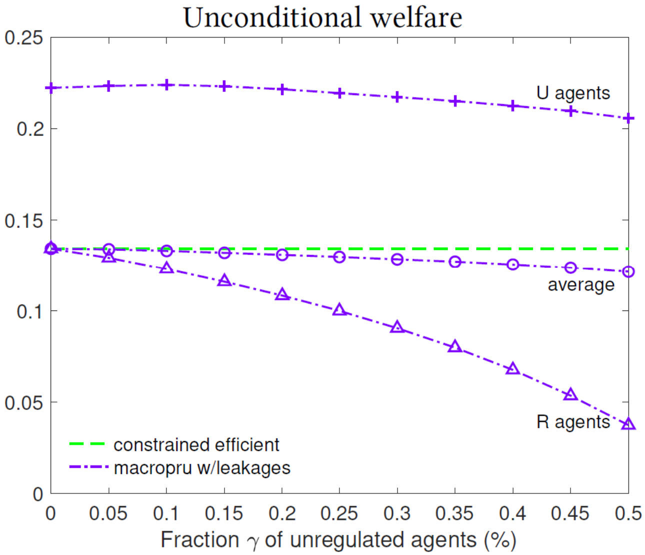
- The social planner maximizes a population weighted sum of the utilities of regulated and unregulated agents
- But in the model regulated and unregulated agents are not the same
- What is the justification for equal treatment? (i.e. why is the social objective compelling?)

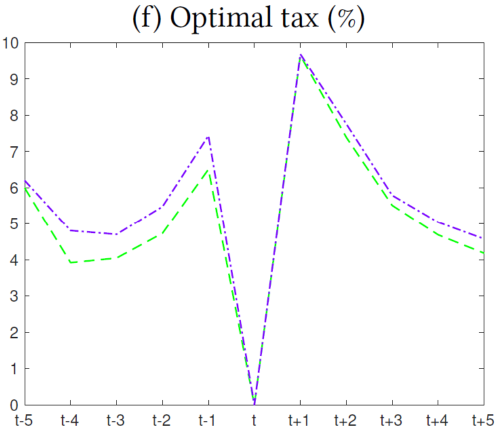
On the Meaning of "Socially Optimal"

- The social planner maximizes a population weighted sum of the utilities of regulated and unregulated agents
- But in the model regulated and unregulated agents are not the same
- What is the justification for equal treatment? (i.e. why is the social objective compelling?)
- In fact, the "optimal" solution seems to punish regulated agents to compensate for the behavior of unregulated agents

On the Meaning of "Socially Optimal"

- The social planner maximizes a population weighted sum of the utilities of regulated and unregulated agents
- But in the model regulated and unregulated agents are not the same
- What is the justification for equal treatment? (i.e. why is the social objective compelling?)
- In fact, the "optimal" solution seems to punish regulated agents to compensate for the behavior of unregulated agents
- One might argue that the welfare function should give priority to regulated agents, or at least try to punish evasion


Unconditional welfare
0.25
0.2
0.15
0.1
0.05
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
Fraction γ of unregulated agents (%)
U agents
average
R agents
constrained efficient
macropru w/leakages


(f) Optimal tax (%)
10
9
8
7
6
5
4
3
2
1
0
t-5
t-4
t-3
t-2
t-1
t
t+1
t+2
t+3
t+4
t+5

- Would we recommend following the tax guidelines of this paper to policymakers?

- Would we recommend following the tax guidelines of this paper to policymakers?
- The main issue, I think, is that the ethical basis for the social welfare function assumed in the paper is shaky

- Would we recommend following the tax guidelines of this paper to policymakers?
- The main issue, I think, is that the ethical basis for the social welfare function assumed in the paper is shaky
- For a positive perspective, it is hard to imagine a political mechanism that would result in that kind of mandate for the government

- Would we recommend following the tax guidelines of this paper to policymakers?
- The main issue, I think, is that the ethical basis for the social welfare function assumed in the paper is shaky
- For a positive perspective, it is hard to imagine a political mechanism that would result in that kind of mandate for the government
- This is a more general concern about optimal policy analysis in models with heterogeneous agents: the social objective function is often hard to justify, either from a normative perspective or from a positive perspective

- Would we recommend following the tax guidelines of this paper to policymakers?
- The main issue, I think, is that the ethical basis for the social welfare function assumed in the paper is shaky
- For a positive perspective, it is hard to imagine a political mechanism that would result in that kind of mandate for the government
- This is a more general concern about optimal policy analysis in models with heterogeneous agents: the social objective function is often hard to justify, either from a normative perspective or from a positive perspective
- This is one reason why economists prefer to focus on finding Pareto improvements

Summarizing

Summarizing

- Instructive exercise, plenty of food for thought

Summarizing

- Instructive exercise, plenty of food for thought
- Useful illustration of unintended and heterogenous impact of macroprudential policy

Summarizing

- Instructive exercise, plenty of food for thought
- Useful illustration of unintended and heterogenous impact of macroprudential policy
- We need to think more about how to best model key leakages

Summarizing

- Instructive exercise, plenty of food for thought
- Useful illustration of unintended and heterogenous impact of macroprudential policy
- We need to think more about how to best model key leakages
- Open question (in general): optimality in the presence of heterogeneity

Summarizing

- Instructive exercise, plenty of food for thought
- Useful illustration of unintended and heterogenous impact of macroprudential policy
- We need to think more about how to best model key leakages
- Open question (in general): optimality in the presence of heterogeneity
- **Thank you!**