Introduction	The level of aggregation	Back to basics	Sources of bias and methods	Conclusions

Development and the effectiveness of social programmes

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Introduction	The level of aggregation	Back to basics	Sources of bias and methods	Conclusions
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Trade, de Never the twai	velopment and n shall meet?	policy-maki	ing	

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- The problem is thus one of estimating a second cross-partial derivative: "bundling" matters

Introduction ⊙●	The level of aggregation	Back to basics 000	Sources of bias and methods 000	Conclusions
Trade, d	levelopment and	d policy-ma	aking	
An example	of this at the macro lev	/el: the link betv	veen ODA and economic p	olicies

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Introduction	The level of aggregation	Back to basics	Sources of bias and methods	Conclusions
○●	00	000	000	
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Introduction	The level of aggregation	Back to basics	Sources of bias and methods	Conclusions
○●	00	000	000	
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Introduction	The level of aggregation	Back to basics	Sources of bias and methods	Conclusions
○●	00	000	000	
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Introduction	The level of aggregation	Back to basics	Sources of bias and methods	Conclusions
⊙●	00	000	000	
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Introduction ⊙●	The level of aggregation	Back to basics 000	Sources of bias and methods 000	Conclusions
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- $\bullet\,$ Roughly-speaking the link between our two tribes involves finding smart ways of estimating $\delta\,$
- But there is an additional problem: differing levels of aggregation, which complicates identification

Introduction 00	The level of aggregation ●○	Back to basics 000	Sources of bias and methods	Conclusions
The level	of aggregation	and identif	ication	

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- or even at the national level



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- But how to estimate the impact of trade policy directly here?
 - i.e. *not* through microsimulation or a CGE model with heterogeneous agents
- We don't have cross-sectional variance in P —there's the rub!
- Finding an intelligent manner of injecting **cross-sectional** variation into *P* is therefore the name of the game

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Impact ev Back to basics	valuation s: constructing a counter	erfactual		

• Y = "outcome" or "result" of interest



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- Y = "outcome" or "result" of interest
- We use medical terminology: "treated" versus "untreated"

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• Having a counterfactual is the key

Introduction 00	The level of aggregation	Back to basics ○●○	Sources of bias and methods	Conclusions
Star Trek				

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 - In universe 0 it is absent
- Sounds easy, and it's a useful thought experiment
- It's not easy to do in practice !
- Getting the two tribes together is a perfect example of how difficult this is to do

Introduction	The level of aggregation	Back to basics	Sources of bias and methods	Conclusions
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What do There are esse	you want to est entially 3 treatment para	timate?		

• ATE: Average Treatment Effect



Introduction	The level of aggregation	Back to basics	Sources of bias and methods	Conclusions
00	00	○○●	000	
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 - Pick a **treated** individual at random: essential in terms of assessing how beneficiaries fared

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 - Pick an **untreated** individual at random: essential in deciding whether to scale up or not



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- People rarely think about this distinction in my tribe, let alone in yours
- But it is **crucial** in terms of policy-relevance



$$Y = \alpha + D\beta + \varepsilon$$

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There are three sources of bias in any piece of empirical work

• Source of bias No. 1 : D is correlated with ε



$$Y = \alpha + D\beta + \varepsilon$$

There are three sources of bias in any piece of empirical work

- Source of bias No. 1 : D is correlated with ε
 - "Garden variety" endogeneity in which, for example, common unobservables determine both treatment status and outcomes

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• Source of bias No. 2 : β is correlated with D



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There are three sources of bias in any piece of empirical work

- Source of bias No. 1 : D is correlated with ε
 - "Garden variety" endogeneity in which, for example, common unobservables determine both treatment status and outcomes
- Source of bias No. 2 : β is correlated with D
 - the decision to implement or participate in the intervention
 (D) is based in part on what people expect to gain from it (β)



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• Source of bias No. 3 : β is correlated with ε



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 - The impact of the intervention (β) is correlated with unobservables that determine the outcome (ε)



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- the decision to implement or participate in the intervention
 (D) is based in part on what people expect to gain from it (β)
- Source of bias No. 3 : β is correlated with ε
 - The impact of the intervention (β) is correlated with unobservables that determine the outcome (ε)
- Most methods deal with the first source of bias: much harder to deal with the other two

Introduction	The level of aggregation	Back to basics	Sources of bias and methods	Conclusions
00	00	000	○●○	
Five meth	nods			

Least squares and matching: plain stupid –simply assumes away all three sources of bias

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Introduction	The level of aggregation	Back to basics	Sources of bias and methods	Conclusions
00	00	000	○●○	
Five meth	nods			

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00	00	000	○●○	
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Five meth	nods			

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Introduction 00	The level of aggregation	Back to basics 000	Sources of bias and methods ○●○	Conclusions
Five meth	nods			

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- Randomization (RCT): the so-called "Gold Standard" —usually assumes away Biases 2 and 3
 - Currently the Randomista clan dominate in my tribe
 - Doubtful that they will dominate yours



• Find a randomization or RDD *D_{vt}* with a baseline and an endline which straddle a trade policy change

 $Y_{ihvt} = \alpha + D_{vt}\beta + P_t\gamma + (D_{vt}P_t)\delta + \mu_t + \lambda_{ihv} + \varepsilon_{ihvt}$





Rajan-Zingales meet the randomistas

• Find a randomization or RDD *D_{vt}* with a baseline and an endline which straddle a trade policy change

$$Y_{ihvt} = lpha + D_{vt}eta + P_t\gamma + (D_{vt}P_t)\delta + \mu_t + \lambda_{ihv} + arepsilon_{ihvt}$$

• Still not enough: can't estimate γ and δ is meaningless since $D_{vt}=0$ for all observations in baseline



Rajan-Zingales meet the randomistas

 Find a randomization or RDD D_{vt} with a baseline and an endline which straddle a trade policy change

$$Y_{ihvt} = lpha + D_{vt}eta + P_t\gamma + (D_{vt}P_t)\delta + \mu_t + \lambda_{ihv} + arepsilon_{ihvt}$$

• Still not enough: can't estimate γ and δ is meaningless since $D_{vt}=0$ for all observations in baseline

• Back to injecting cross-sectional variation into P_t



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- Construct some measure of household or village exposure to trade (ex: distance to market): call this *E_v*

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Introduction on The level of aggregation on on Back to basics on the second sec

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Introduction on The level of aggregation on Sources of bias and methods on Conclusions on Sources of bias and methods on Sou

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 Essentially a Rajan-Zingales procedure in the midst of an RCT or RDD

Introduction 00	The level of aggregation	Back to basics 000	Sources of bias and methods 000	Conclusions	
Conclusions					

• Still only the first step

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Introduction	The level of aggregation	Back to basics	Sources of bias and methods	Conclusions
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Introduction	The level of aggregation	Back to basics	Sources of bias and methods	Conclusions
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Conclusio	ons			

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Introduction 00	The level of aggregation	Back to basics 000	Sources of bias and methods	Conclusions
Conclusic	ons			

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Introduction 00	The level of aggregation 00	Back to basics 000	Sources of bias and methods	Conclusions
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Introduction 00	The level of aggregation 00	Back to basics 000	Sources of bias and methods	Conclusions
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Introduction 00	The level of aggregation 00	Back to basics 000	Sources of bias and methods	Conclusions
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- ...since TUT is often what is most interesting in terms of policy
- Might therefore allow the twains to meet