

Evaluation des Politiques Publiques

M1 ISF

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Consignes :

- Aucun document n'est autorisé

Questions (5.5 points) :

- 1) Comment justifier l'importance prise par l'évaluation des politiques publiques depuis le début des années 2000 ? 1.5
- 2) Pourquoi les variables instrumentales peuvent être une réponse à un problème d'erreur de mesure ? 1
- 3) Quels problèmes peut poser la généralisation d'une politique d'une échelle locale à une échelle nationale ? 1.5
- 4) De quelles manières une expérimentation peut modifier le comportement des parties prenantes de l'évaluation ? 1.5

Exercice 1 (8.5 points) :

Dans un article publié en 2007, Dean Yang et HwaJung Choi s'intéressent à la question des *remittances*. Les *remittances* sont les revenus envoyés par un travailleur installé à l'étranger vers des membres de sa famille restés dans son pays d'origine. D'un point de vue macroéconomique, ces transferts représentent plus que l'ensemble de l'aide au développement mondiale. Yang et Choi cherchent à voir si ces *remittances* sont utilisés comme une assurance lorsque les revenus domestiques de la famille restée dans le pays d'origine sont affectés par un choc (mauvaise/bonne récolte, problème de santé, naissances...).

Pour répondre à cette question, le modèle que l'on pourrait chercher à estimer serait le suivant :

$$remittances = \beta_0 + \beta_1 \text{revenus_domestiques} + u \quad (1)$$

- 1) Si les *remittances* ont une fonction assurantielle, quel devrait être le signe de β_1 ? 1
- 2) Quels sont les problèmes potentiels du modèle ? 2

- 3) Les auteurs proposent d'utiliser les chocs météorologiques comme variable instrumentale pour les revenus domestiques. Plus précisément, les auteurs utilisent le niveau de précipitation comme instrument. Cela vous semble-t-il être un bon choix ? 2
- 4) Commentez le tableau 2 (document A). 1.5
- 5) Commentez le tableau 3 (document A). 2

NB : dans les tableaux 2 et 3, « *migrant households* » signifie que ce sont des familles dont un des membres est actuellement à l'étranger (et donc susceptible de leur faire parvenir un revenu). A l'inverse, « *non-migrant households* » signifie que le ménage n'a aucun de ses membres à l'étranger.

Exercice 2 (6 points):

En 2008, un dispositif a été mis en place à Corbeil-Essonnes afin d'aider des parents d'élèves entrant au collège à mieux comprendre le rôle qu'ils peuvent jouer auprès de leurs enfants. Une série de 3 réunions a été organisée avec l'équipe éducative où divers conseils ont été fournis aux parents (par exemple comment encourager et vérifier les devoirs à la maison même sans avoir le niveau requis). Ces réunions se déroulaient sur la base du volontariat. Au cours de l'année, les notes et les comportements des élèves ont été étudiés avant d'évaluer l'effet de ces réunions. On pourrait donc vouloir évaluer l'effet de ce dispositif de la manière suivante

$$y = \beta_0 + \beta_1 \textit{participation} + u \quad (2)$$

Avec y un outcome donné (absentéisme, notes, comportement...) et $\textit{participation}$ une variable binaire prenant la valeur 1 si les parents participent au dispositif.

- 1) Dans quelle mesure β_1 peut être mal identifié dans le modèle ci-dessus ? 1
- 2) L'équipe de chercheurs décide de tirer au sort, parmi les parents volontaires, un groupe de parents qui formera le groupe traitement. Ceux qui ne sont pas tirés au sort formeront le groupe contrôle. Le tableau 3 (document B) décrit le résultat de cette opération. Commentez. 1
- 3) Commentez le tableau 10. 1
- 4) Commentez le tableau 11 et 13. 2
- 5) On suspecte ce dispositif de générer des externalités positives. Comment les évalueriez-vous ? 1

Document A :

Table 2: Impact of rainfall shock on domestic income, 1997-1998
(OLS estimates, first stage of IV regression)

Dependent variable: Change in household domestic income (as share of initial household income)

	<u>Migrant households</u>	<u>Non-migrant households</u>
Dry season rainfall shock (000 mm.)	0.061 (0.022)***	0.076 (0.031)**
Wet season rainfall shock (000 mm.)	-0.022 (0.015)	-0.042 (0.036)
<u>Household head characteristics</u>		
<u>Highest education level (indicators)</u>		
Elementary	-0.047 (0.036)	0.035 (0.031)
Some high school	0.034 (0.054)	0.075 (0.039)*
High school	0.045 (0.065)	0.111 (0.028)***
Some college	0.077 (0.061)	0.213 (0.042)***
College or more	0.126 (0.055)**	0.445 (0.056)***
<u>Occupation (indicators)</u>		
Professional job	0.097 (0.077)	0.226 (0.044)***
Clerical job	0.065 (0.049)	0.171 (0.037)***
Service job	0.076 (0.079)	0.134 (0.030)***
Production job	-0.025 (0.069)	0.051 (0.029)*
Other job	0.153 (0.039)***	0.272 (0.037)***
Does not work	-0.130 (0.061)**	0.262 (0.093)***
<u>Log income per capita in household</u>	-0.196 (0.022)***	-0.412 (0.036)***
<u>Located in urban area (indicator)</u>	0.094 (0.038)**	0.143 (0.022)***
F-statistic: joint significance of rainfall shock variables	4.680	3.060
P-value	0.015	0.058
Num. of obs.	1,655	26,126
R-squared	0.04	0.03

* significant at 10%; ** significant at 5%; *** significant at 1%

NOTE -- Each column of table is separate first differenced regression. Standard errors in parentheses, clustered by weather station. Migrant HHs are those with overseas worker in Jun 1997. The change in domestic income (Jan-Jun 1997 to Apr-Sep 1998) is HH total income excluding remittances from overseas, expressed as fraction of initial household income (Jan-Jun 1997). Rainfall shocks are changes in rainfall variables between first and second period. Omitted occupation indicator is "Agricultural job". Omitted education indicator is "Less than elementary". See Table 1 for other variable definitions.

Table 3: Impact of domestic income shock on remittances, 1997-1998
(OLS / IV estimates)

Dependent variable: Change in household remittance receipts (as share of initial household income)

	<u>Migrant households</u>		<u>Non-migrant households</u>	
	<u>OLS</u>	<u>IV</u>	<u>OLS</u>	<u>IV</u>
Change in household domestic income (as share of initial household income)	-0.067 (0.039)*	-1.067 (0.440)**	-0.002 (0.001)	0.041 (0.045)
<u>Household head characteristics</u>				
<u>Highest education level (Indicators)</u>				
Elementary	0.043 (0.053)	-0.005 (0.077)	0.008 (0.003)**	0.006 (0.003)*
Some high school	0.053 (0.070)	0.079 (0.085)	0.004 (0.003)	0.000 (0.004)
High school	0.124 (0.053)**	0.173 (0.094)*	0.015 (0.004)***	0.010 (0.006)*
Some college	0.185 (0.050)***	0.262 (0.106)**	0.022 (0.007)***	0.013 (0.011)
College or more	0.324 (0.095)***	0.445 (0.121)***	0.027 (0.008)***	0.009 (0.021)
<u>Occupation (Indicators)</u>				
Professional job	-0.006 (0.083)	0.080 (0.089)	0.005 (0.010)	-0.004 (0.016)
Clerical job	-0.074 (0.069)	-0.016 (0.098)	0.008 (0.005)	0.000 (0.009)
Service job	-0.010 (0.058)	0.059 (0.109)	-0.002 (0.005)	-0.007 (0.008)
Production job	-0.039 (0.066)	-0.067 (0.091)	0.006 (0.004)	0.004 (0.005)
Other job	0.034 (0.053)	0.179 (0.092)*	0.016 (0.008)*	0.004 (0.015)
Does not work	0.626 (0.721)	0.488 (0.691)	-0.165 (0.108)	-0.175 (0.110)
<u>Log income per capita in household</u>	-0.303 (0.030)***	-0.494 (0.091)***	-0.014 (0.003)***	0.003 (0.018)
<u>Located in urban area (indicator)</u>	0.072 (0.050)	0.174 (0.064)**	0.007 (0.003)**	0.001 (0.008)
Num. of obs.	1,655	1,655	26,126	26,126

* significant at 10%; ** significant at 5%; *** significant at 1%

NOTES – Each column of table is separate first differenced regression (OLS/IV). Instrumental variables for change in domestic household income are rainfall shocks in dry and wet seasons (see Table 2 for first stage regression). Standard errors in parentheses, clustered by weather station. See Table 2 for other notes, and Table 1 for variable definitions.

Document B :

Table 3: Difference in Pre-Treatment Characteristics across Treatment Arms.

	mean	std	T - C	(se)	n.obs.
<i>parents</i>					
Employment status	0.85	0.36	-0.002	(0.010)	4660
Intact family	0.73	0.44	-0.002	(0.013)	4728
White collar	0.19	0.39	0.001	(0.011)	4529
<i>children</i>					
Girl	0.48	0.50	0.006	(0.010)	4728
6th grade repetition	0.06	0.23	0.000	(0.005)	4728
Age (sept 2008)	11.45	0.57	-0.002	(0.019)	4728
<i>tests</i>					
French test (sept 2008)	-0.01	1.00	-0.048	(0.044)	4165
Maths test (sept 2008)	-0.01	1.00	0.008	(0.036)	4167
Volunteers Only					
<i>parents</i>					
Employment status	0.84	0.36	-0.015	(0.021)	1056
Intact family	0.75	0.43	-0.020	(0.023)	1056
White collar	0.21	0.41	-0.014	(0.022)	1037
<i>children</i>					
Girl	0.46	0.50	-0.016	(0.029)	1056
6th grade repetition	0.05	0.21	0.007	(0.011)	1056
Age (sept 2008)	11.41	0.57	0.019	(0.034)	1056
<i>tests</i>					
French test (sept 2008)	-0.07	1.00	-0.019	(0.073)	985
Maths test (sept 2008)	-0.04	1.01	-0.053	(0.069)	994
Non Volunteers Only					
<i>parents</i>					
Employment status	0.85	0.35	0.001	(0.012)	3604
Intact family	0.72	0.45	0.004	(0.014)	3672
White collar	0.18	0.39	0.006	(0.012)	3492
<i>children</i>					
Girl	0.48	0.50	0.012	(0.012)	3672
6th grade repetition	0.06	0.24	-0.001	(0.006)	3672
Age (sept 2008)	11.46	0.57	-0.002	(0.021)	3672
<i>tests</i>					
French test (sept 2008)	0.01	1.00	-0.058	(0.047)	3180
Maths test (sept 2008)	0.00	1.00	0.020	(0.040)	3173

Notes: Column "T - C" displays the coefficient from the regression of the row variable on a test dummy and school fixed effects. Robust standard errors allowing for correlated residuals within classes are shown in parentheses.
 *: Significant at the 10% level. **: significant at the 5% level.

Table 10: Impact of the Program on Parental Attitudes and Behavior: Volunteers Only (Raw Indicators)

Question	mean C	T - C	(se)
Global Parenting Score	-0.141	0.266**	(0.071)
School-Based Involvement Score	0.172	0.320**	(0.076)
<i>Several individual appointments with teachers</i>	0.24	0.056*	(0.033)
<i>Has attended parents/teachers meetings</i>	0.80	0.083**	(0.026)
<i>Has participated in parents' organizations</i>	0.24	0.111**	(0.032)
Home-Based Involvement Score	0.015	0.103*	(0.057)
<i>Precise knowledge of child's grades</i>	0.44	0.011	(0.035)
<i>Sometimes helps with homeworks</i>	0.88	0.004	(0.023)
<i>Child does not watch TV daily after 9pm</i>	0.80	0.052**	(0.025)
<i>Child spends less than 1 h/d on other screens</i>	0.88	0.027	(0.019)
Understanding & Perceptions Score	-0.182	0.184**	(0.071)
<i>Knowledge of optional courses offered</i>	0.76	0.093**	(0.028)
<i>Has never been anxious about violence</i>	0.26	0.014	(0.028)
<i>Clear ideas about high-school plans</i>	0.27	0.048	(0.031)
<i>Satisfied with school</i>	0.81	0.048**	(0.021)
<i>Never been summoned to the school</i>	0.72	0.077**	(0.029)

Notes: Score variables are standardized summaries of answers to questions in the corresponding section of the parent questionnaire. Dependent variables in italics are dummy variables, constructed from answers to one question. Column "T - C" displays the coefficient from the regression of the dependent variable on a test dummy and school fixed effects. Each line corresponds to a separate regression. Coefficients in column "T - C" are to be interpreted as standardized effect sizes, except for the dummy indicator "Never been summoned to school", where it corresponds to the predicted change in the probability. Robust standard errors allowing for correlated residuals within classes are shown in parentheses. Sample size corresponds to 834 (see table 6).

*: Significant at the 10% level. **: significant at the 5% level.

Table 11: Impact of the Program on Pupils' Behavior (Term 3)

outcome	mean C	T - C	(se)	std	n.obs.
<i>all</i>					
absenteeism	4.324	-0.711**	(0.296)	7.737	3401
behav. score	-0.013	0.106**	(0.037)	1.024	4467
<i>discipl. sanctions</i>	<i>0.109</i>	<i>-0.025**</i>	<i>(0.011)</i>	<i>0.296</i>	<i>4198</i>
<i>good conduct</i>	<i>0.326</i>	<i>0.048**</i>	<i>(0.024)</i>	<i>0.481</i>	<i>2971</i>
<i>honors</i>	<i>0.345</i>	<i>0.040**</i>	<i>(0.016)</i>	<i>0.482</i>	<i>4234</i>
<i>volunteers</i>					
absenteeism	4.217	-0.771	(0.549)	7.737	786
behav. score	-0.012	0.117*	(0.066)	1.024	1045
<i>discipl. sanctions</i>	<i>0.106</i>	<i>-0.036*</i>	<i>(0.020)</i>	<i>0.296</i>	<i>975</i>
<i>good conduct</i>	<i>0.289</i>	<i>0.044</i>	<i>(0.038)</i>	<i>0.481</i>	<i>676</i>
<i>honors</i>	<i>0.352</i>	<i>0.018</i>	<i>(0.029)</i>	<i>0.482</i>	<i>1006</i>
<i>non volunteers</i>					
absenteeism	4.351	-0.600*	(0.337)	7.737	2615
behav. score	-0.014	0.098**	(0.042)	1.024	3422
<i>discipl. sanctions</i>	<i>0.110</i>	<i>-0.021*</i>	<i>(0.012)</i>	<i>0.296</i>	<i>3223</i>
<i>good conduct</i>	<i>0.336</i>	<i>0.048*</i>	<i>(0.026)</i>	<i>0.481</i>	<i>2295</i>
<i>honors</i>	<i>0.343</i>	<i>0.046**</i>	<i>(0.019)</i>	<i>0.482</i>	<i>3228</i>

Notes: Column "T - C" displays the coefficient from the regression of the dependent variable on a test dummy and school*volunteer fixed effects (school dummies interacted with volunteer status dummies). Each line corresponds to a separate regression. Robust standard errors allowing for correlated residuals within classes are shown in parentheses.

*: Significant at the 10% level. **: significant at the 5% level.

Table 13: Impact of the Program on Pupils' Achievement Gains

outcome	<i>impact (std pts)</i>		<i>base points (T3)</i>		
	T - C	(se)	avg (C)	std	n.obs.
<i>all</i>					
Teacher Marks					
French	0.065*	(0.036)	10.8	3.8	4271
Maths	0.005	(0.038)	10.9	4.3	4271
Tests					
French	0.039	(0.042)	62.6	17.9	3734
<i>observation</i>	0.109**	(0.045)	78.0	18.3	3734
Maths	-0.013	(0.038)	54.0	19.2	3707
<i>volunteers</i>					
Teacher Marks					
French	0.151**	(0.048)	10.7	3.8	1009
Maths	0.024	(0.054)	10.9	4.3	1009
Tests					
French	-0.032	(0.055)	62.0	17.9	881
<i>observation</i>	0.211**	(0.063)	77.5	18.3	881
Maths	-0.012	(0.055)	53.0	19.2	870
<i>non volunteers</i>					
Teacher Marks					
French	0.040	(0.038)	10.9	3.8	3262
Maths	0.003	(0.038)	10.9	4.3	3262
Tests					
French	0.060	(0.046)	62.8	17.9	2853
<i>observation</i>	0.076	(0.050)	78.1	18.3	2853
Maths	-0.014	(0.039)	54.2	19.2	2837

Notes: The dependent variable for each achievement measure is computed as the difference between end-of-year standardized scores and start-of-year standardized scores. Column "T - C" displays the coefficient from the regression of the dependent variable on a test dummy. All observations for which end-of-year achievement is available are included in the analysis; dummies for missing Term 1 measures are added to the regression. All regressions include school*volunteer fixed effects (school dummies interacted with volunteer status dummies). Each line corresponds to a separate regression. Robust standard errors allowing for correlated residuals within classes are shown in parentheses. Columns 4 and 5 report descriptive statistics for the control groups' term 3 measures; marks are given on a 0-20 scale, while test scores are in percentage terms.

*: Significant at the 10% level. **: significant at the 5% level.