An assessment of the benefits and costs of emigration in Mexico and Uruguay

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OUTLINE

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MOTIVATION

✓ There is a large literature that analyzes the costs and benefits of migration based on remittances

✓ In Latin America: impact of remittances on consumption, investment and growth (Borraz & Pozo, 2007; Albo & Ordaz, 2009; Canales, 2008; Pradhan et al, 2008; Orozco, 2002; Orozco & Wilson, 2005)

✓ Proposal developed by Mejía-Guevara and Vega (2012) , that takes into account other variables than remittances.

✓ We apply this methodology to the Mexican and Uruguayan cases

MAIN CHARACTERISTICS OF MIGRATION IN MEXICO AND URUGUAY

✓ Two countries with a long tradition of emigration

✓ Proportion of emigrants in resident population in 2004:

- Mexico: 10%; Uruguay: 13%

✓ Main destination countries:

- Mexico: US; Uruguay: Argentina, Brasil, US, Spain

✓ Characteristics of emigrants (related to the population remaining in the country) :

- Mexico: less educated; Uruguay: more educated

✓Remittances:

- Mexico: important role (2.5% of GDP); Uruguay: quite limited (0.5% of GDP)

ESTIMATION METHOD

✓ The method considers cost and gains of migration and estimates a net loss function

✓ costs: forgone production (forgone labor and asset income)

✓gains: forgone consumption (the consumption of migrants that does not require to be funded in the sender country); remittances (production of migrants allocated in the sender country)

✓ the net loss generated by each migrant varies by age: there is a loss function for each age "*x*"

METHOD: THE LOSS FUNCTION

✓ Following Mejía-Guevara and Vega (2012) we estimate a loss function for each age "x":

$$loss_t(x) = p_t(x)\left[y_t^l(x) + y_t^{pa}(x) - c_t(x) - r_t(x)\right]$$

$$loss_t = \sum_{x=1}^{X} loss_t\ (x)$$

y^l: average forgone labor income by age *x* at time *t*

y^{pa}: average forgone asset income

c: average forgone consumption

r: average amount of remittances

p: number of migrants

✓ we assume that the average value of forgone Y^l, C and Y^{pa} of migrants are equal to the average values for the residents in the sender country

METHOD: A DECOMPOSITION OF THE LOSS DIFFERENCE

$$loss_U - loss_M = \sum_{x=1}^{X} p_U(x) \,.\, z_U(x) - \sum_{x=1}^{X} p_M(x) \,.\, z_M(x) \qquad (3)$$

- $z_t(x)$ is the mean cost of migration by age in US$ PPP
- P_M and P_U denote the total stock of Mexican and Uruguayan migrants

We decompose the per migrant loss gap into two terms

$$\frac{loss_U}{P_U} - \frac{loss_M}{P_M} = \sum_{x=1}^{X} \left[\frac{p_U(x)}{P_U} - \frac{p_M(x)}{P_M}\right] . z_M(x) + \sum_{x=1}^{X} \frac{p_U(x)}{P_U} . [z_U(x) - z_M(x)]$$

age structure effect

loss value effect

METHOD: TWO ESTIMATIONS

✓ Two estimations for each country:

- given that migrants have the same Y^l, C and Y^{pa} profiles of residents in the country of origin

- given that migrants have specific ages profiles:

  - Mexico: age-profile of middle-low educated population (6-8 years of education)
  - Uruguay: age-profile of middle-high educated population (9-11 years of education)

DATA

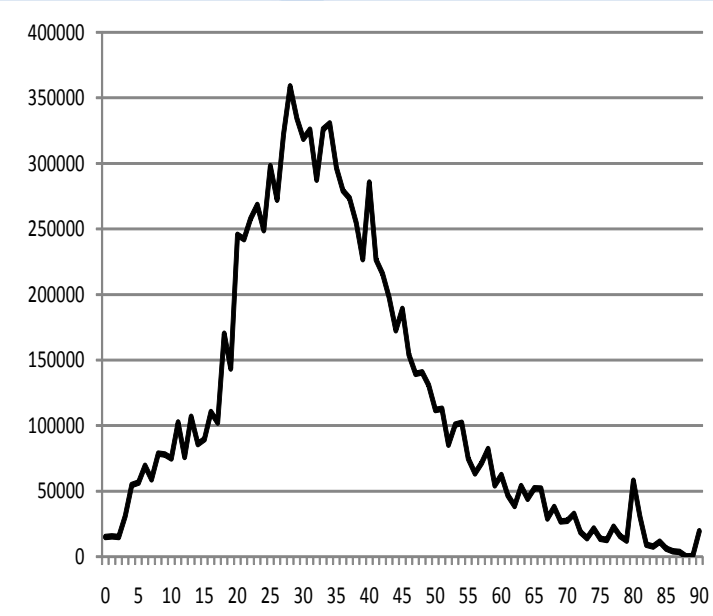
✓ Stock of Mexican-born and Uruguayan-born living in the main countries of destination (first generation migrants):

- Mexico: migrants living in the U.S.
- Uruguay: migrants living in Argentina, Brasil, Spain, US

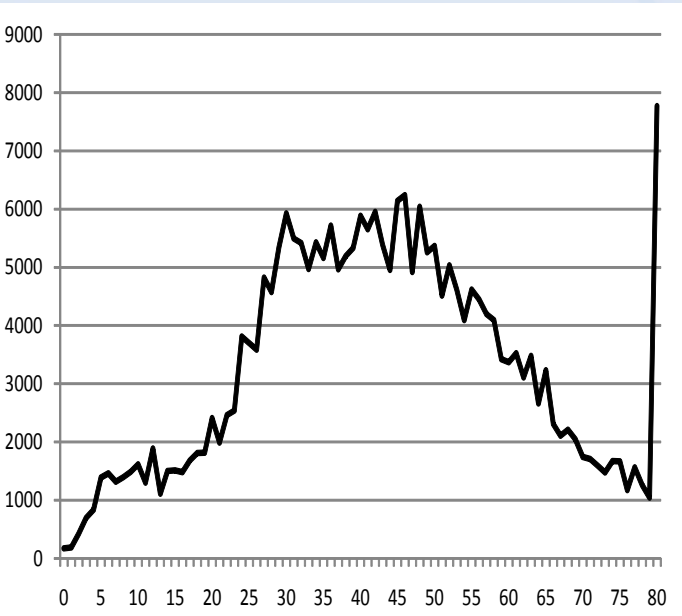
✓ NTA age profile of the loss function variables: Mexico 2004 and Uruguay 2006

✓ The loss is expressed: i) in US dollars PPP (base 2005) per migrant, ii) as a percentage of GDP.

DATA: stock of migrant by age for Mexico and Uruguay



(a) Mexico

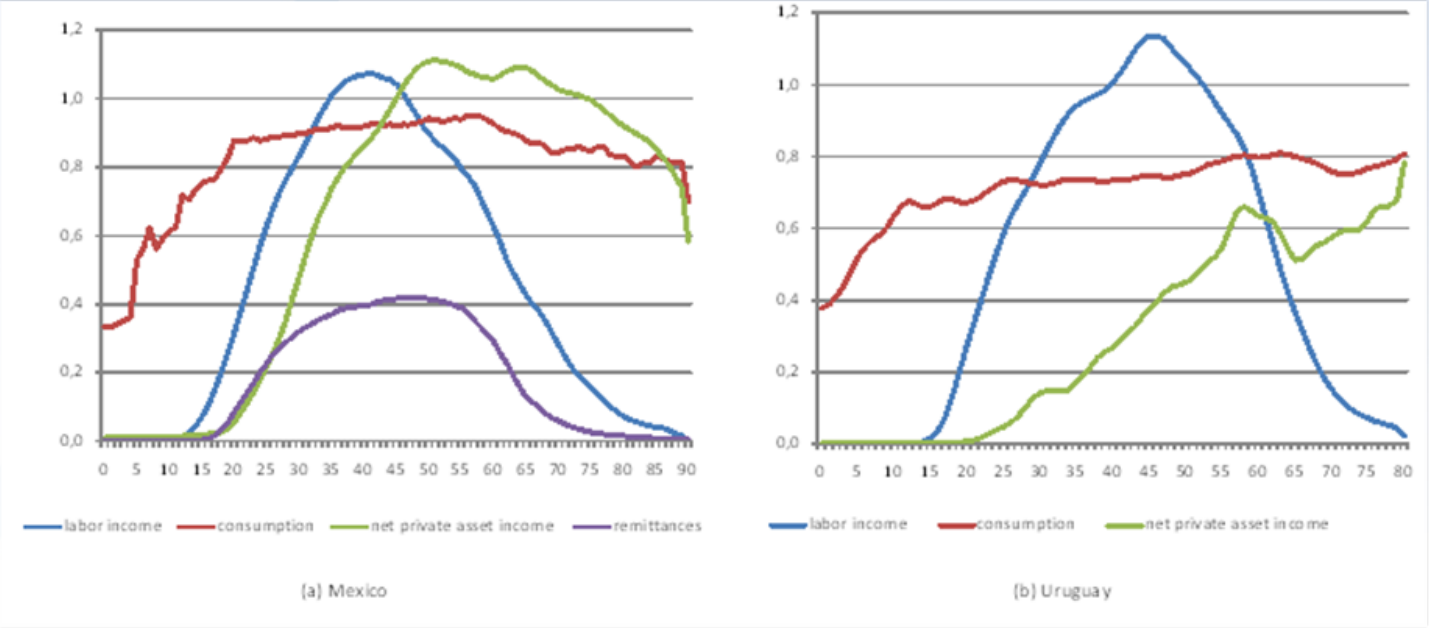


(a) Uruguay

Mexican migrants are younger than uruguayans

DATA: Age profile of labor income, consumption, private asset income and remittances in Mexico and Uruguay

Profiles for residents in the country of origin



- ✓ Mexican asset income is very high compared to Uruguay
- ✓ Remittances only for Mexico

Note: Values are expressed in relation to mean labor income of the 30-49 age-group

DATA: Age profiles for low-educated Mexican people and middle-high educated Uruguayan people

Mexico

Uruguay

Mexico: profiles are lower than the average

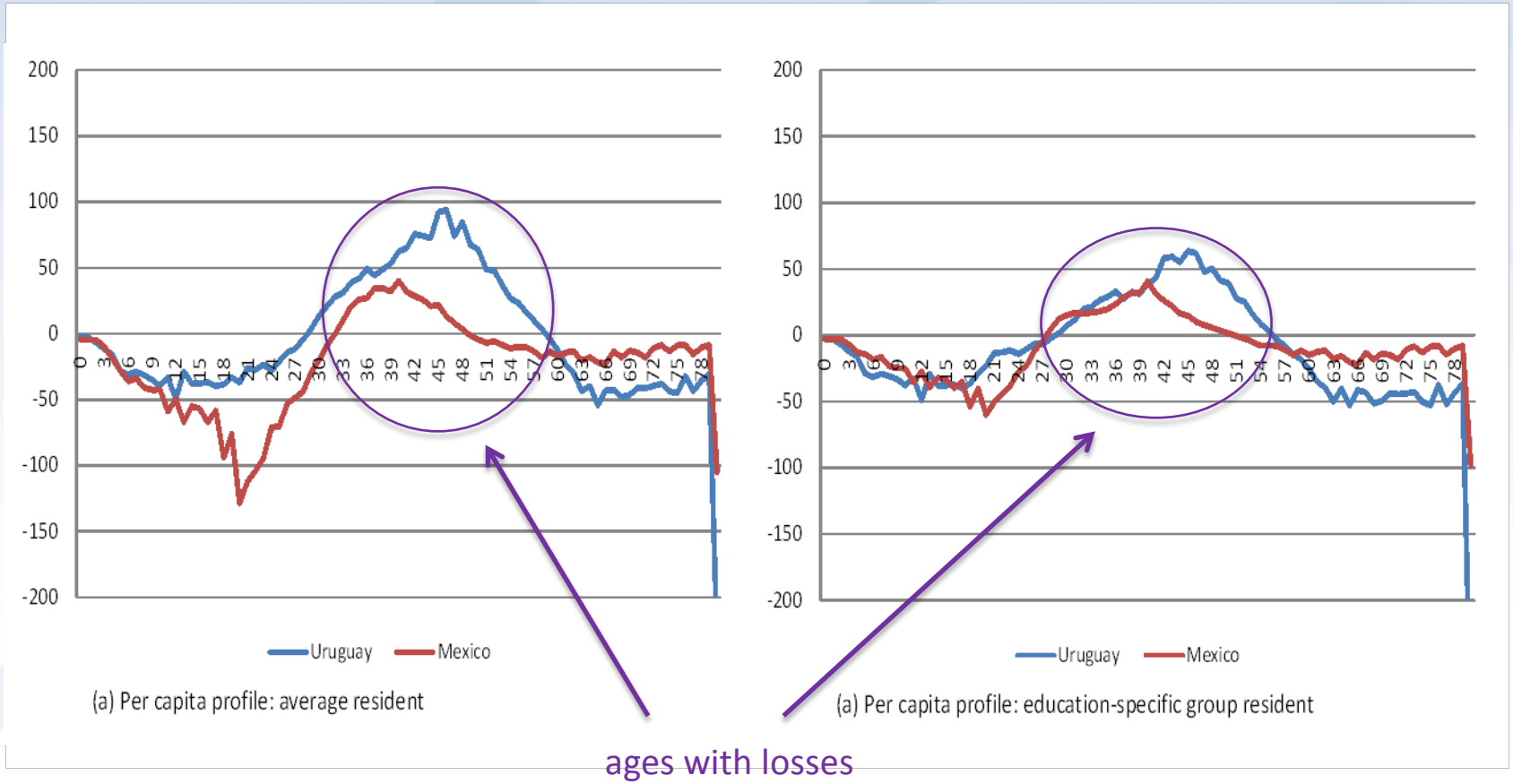
Uruguay: labor income is lower than the average,

asset income is lower for younger than 60 years old,

consumption is higher

Note: Values are expressed in relation to mean labor income of the 30-49 age-group

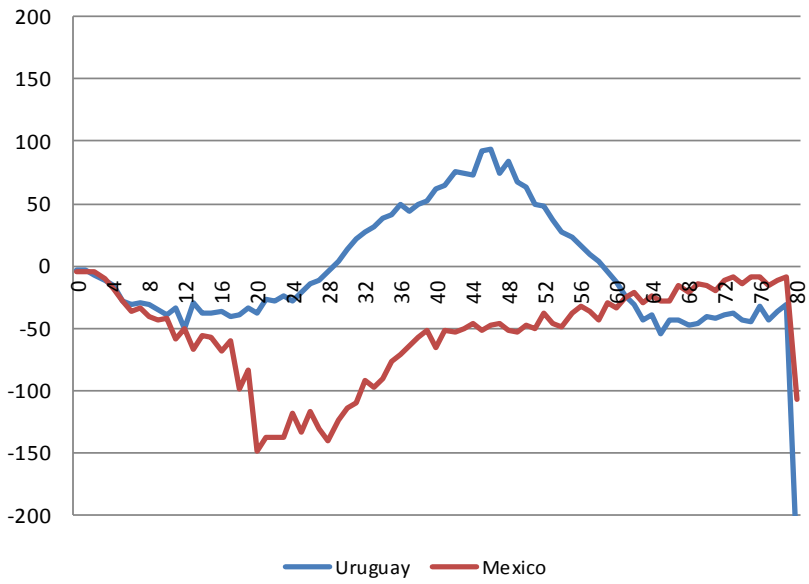
RESULTS: Per capita loss by age: labor income minus consumption (US$ PPP)



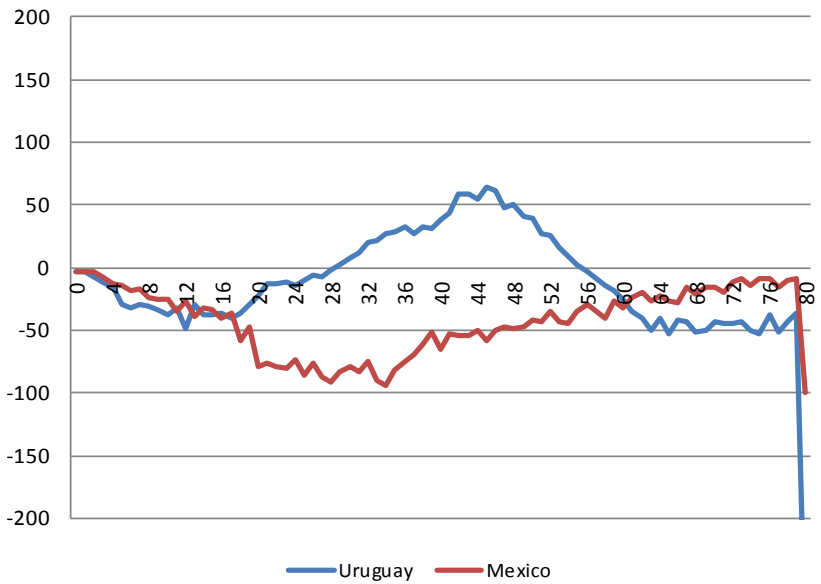
Net loss from migration is higher for Uruguay than for Mexico

The loss decreases if uses the educational-specific age profile

RESULTS: Per capita loss by age: labor income, consumption and remittances (US$ PPP)



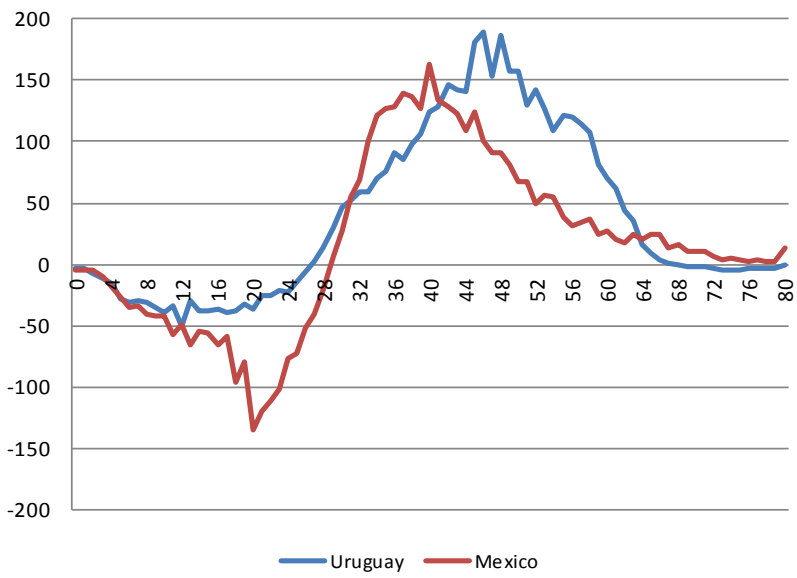
(a) Per capita profile: average resident



(a) Per capita profile: education-specific group resident

✓ Mexico has a gain at all ages

RESULTS: Per capita net loss by age (US$ PPP)



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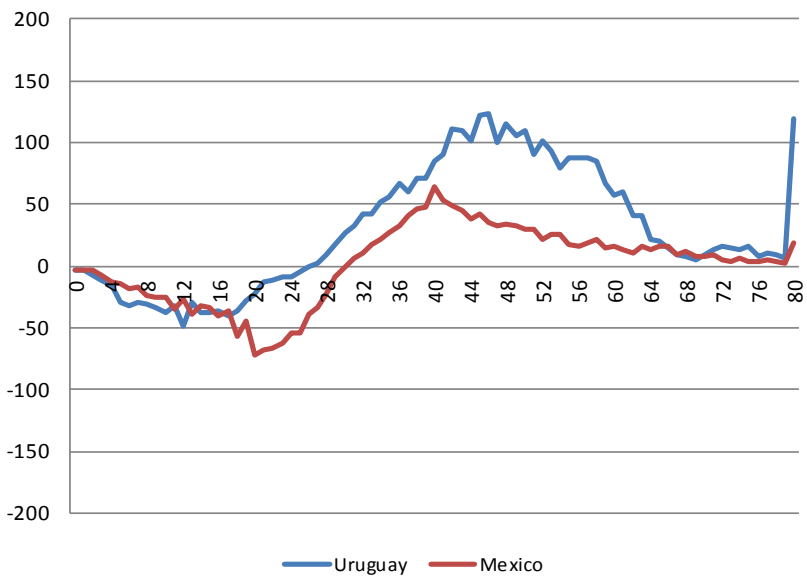

(a) Per capita profile: education-specific group resident

✓ Forgone asset income contributes to a dramatic increase of the loss

RESULTS: Loss per migrant from migration by components (in US$ PPP)

	Migrants are similar to …			
	Average resident		Mid-low educated resident	Mid-high educated resident
Component	**Mexico**	**Uruguay**	**Mexico**	**Uruguay**
Labor income	6981	7252	5653	6624
Consumption	-8737	-7617	-6430	-7629
Remittances	-2653	-.-	-2653	-.-
Private asset income	5750	3408	3542	3388
Net loss	1341	3042	113	2383

RESULTS: Decomposition of the difference between countries of the per migrant loss from migration by components in US$ PPP

(educational-specific estimations)

	Total loss	Labor income	Consumption	Remittances	Asset income
Difference	2269.9	971.5	-1199.9	2652.5	-154.2
Age effect	1054.0	14.0	-430.5		1587.2
Value effect	1216.0	957.5	-769.4		-1741.4

- ✓ the loss due to forgone labor income is higher in Uruguay
- ✓ mainly explained because incomes are higher

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- ✓ the gains due to forgone consumption are higher in Uruguay
- ✓ consumption is higher and the proportion of migrants with high consumption is bigger

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(educational-specific estimations)

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- ✓ only Mexico has gains because of remittances
- ✓ the loss due to forgone asset income is higher in Mexico

RESULTS: Loss from migration by components as a percentage of GDP

	Migrants are similar to …			
	Average resident		Mid-low educated resident	Mid-high educated resident
Component	**Mexico**	**Uruguay**	**Mexico**	**Uruguay**
Labor income	6.4	5.5	5.1	5.1
Consumption	-7.9	-5.8	-5.8	-5.8
Remittances	-2.4	-.-	-2.4	-.-
Private asset income	5.2	2.6	3.2	2.6
Net loss	**1.2**	**2.3**	**0.1**	**1.8**

✓ The net loss from migration is higher for Uruguay than for Mexico

✓ The forgone private asset income is high enough to reverse the gains due to the excess of consumption over labor income and remittances

CONCLUSIONS

The migration effects changed when we take into account not only remittances: the benefits disappear in the case of Mexico and emerges a loss for Uruguay

Both countries benefit from the excess of consumption over labor income of the stock of migrants

But, in both countries the forgone private asset income offsets the mentioned gains – important role of assets

The different age structure of migrants and the different value of the per capita loss explain around 50% each the difference between countries

Estimations are sensitive to age profiles, in particular the loss of migration requires an accurate age profile of forgone asset income