



Why people move?

The migration choice

Alessandra Venturini

The Economics of Migration, 2016



The economic analyses focus on three main subjects

The migration choice

The effect in the destination country

- on the GNP and innovation
- in the labour market
- on the welfare
- integration (wage assimilation)

The effect in the sending countries

- economic and social remittances,
- brain drain

Methodology

The research in economics is conditioned upon the dataset available,
we use the economic theory and the statistical knowledge to overcome data limitation

The migration choice

Why people does move?

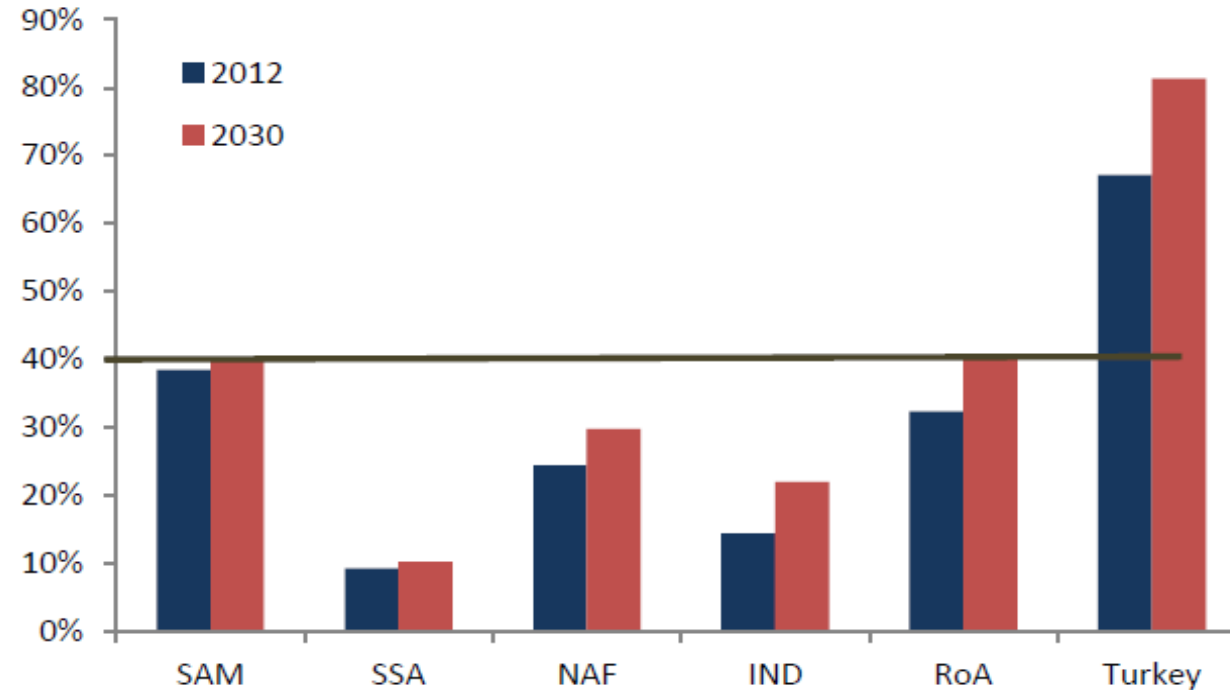
Who does move?

How many people does move?

- 95% of the research on labour migrants
- Now some research on refugees (Hatton Tim 2015; Dustmann et al 2016)
- Very little of family reunification



**Figure 2.9 Income differentials in 2030: Average GDP per worker
as % of EU average in selected regions**



Note: SAM = South America, SSA = Sub-Saharan Africa, NAF = North Africa, IND = India and RoA = Rest of Asia.



Figure 2.10 Level of urbanisation by region, 2011 and 2030

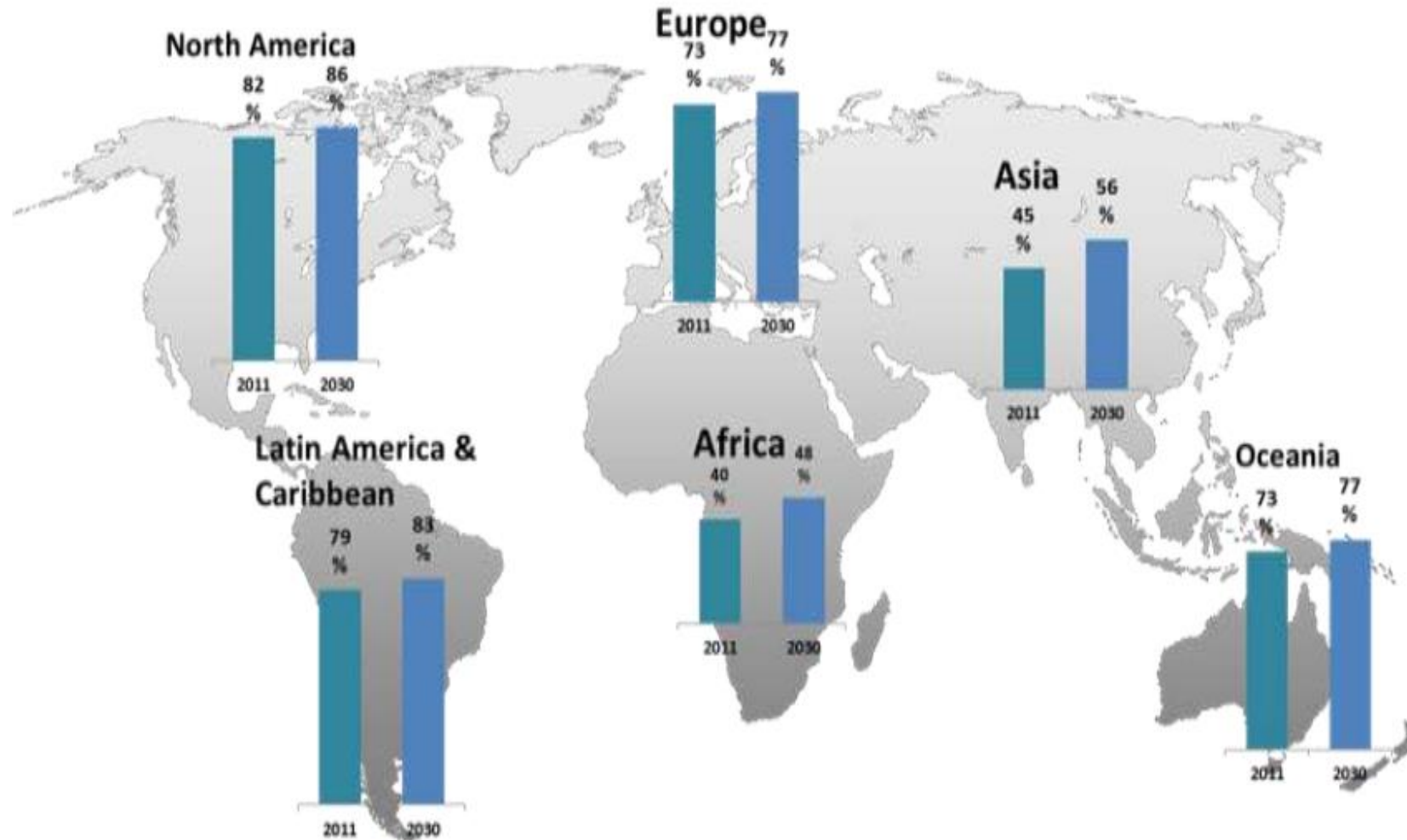




Figure 2.11 Urbanisation and income (change between 1985 and 2010)

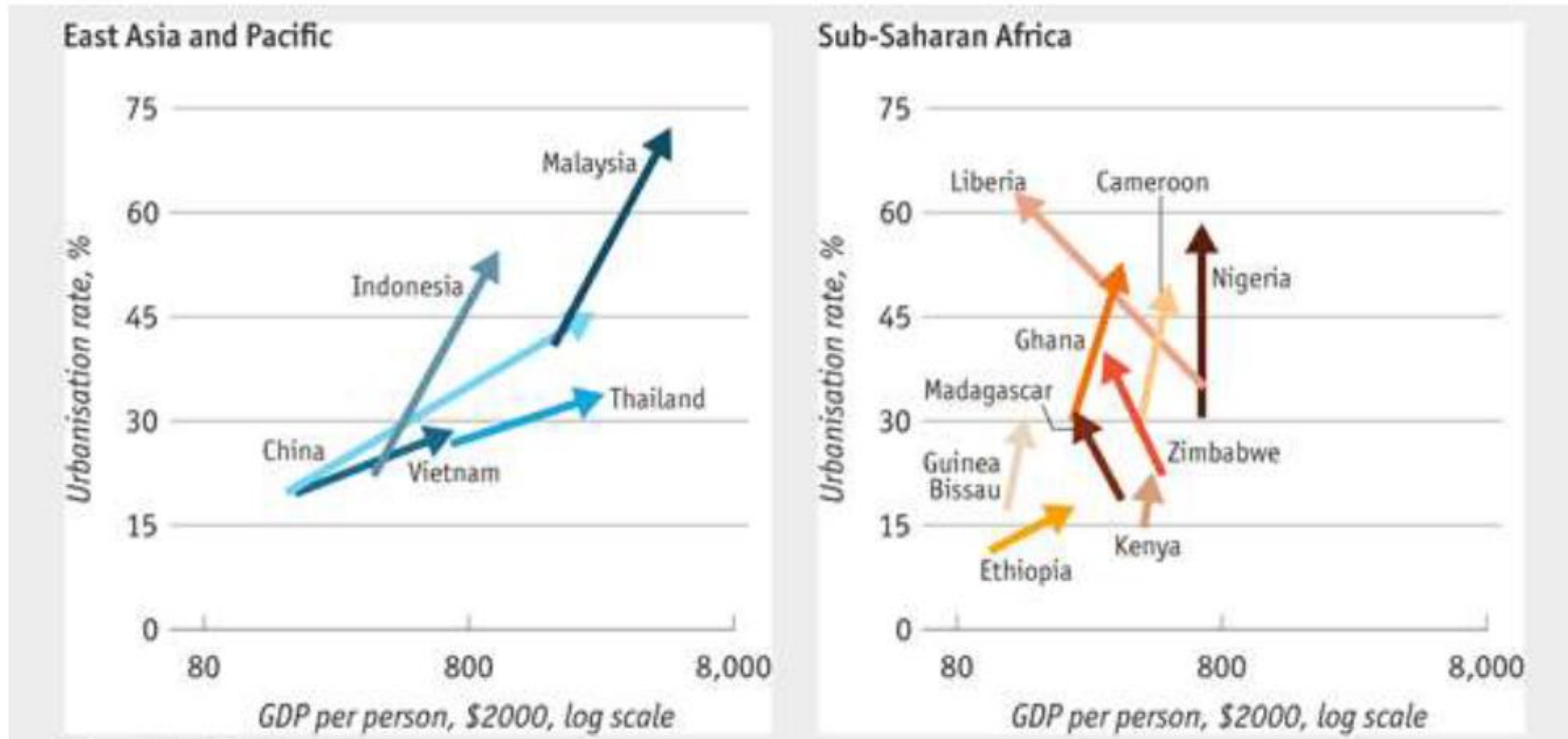
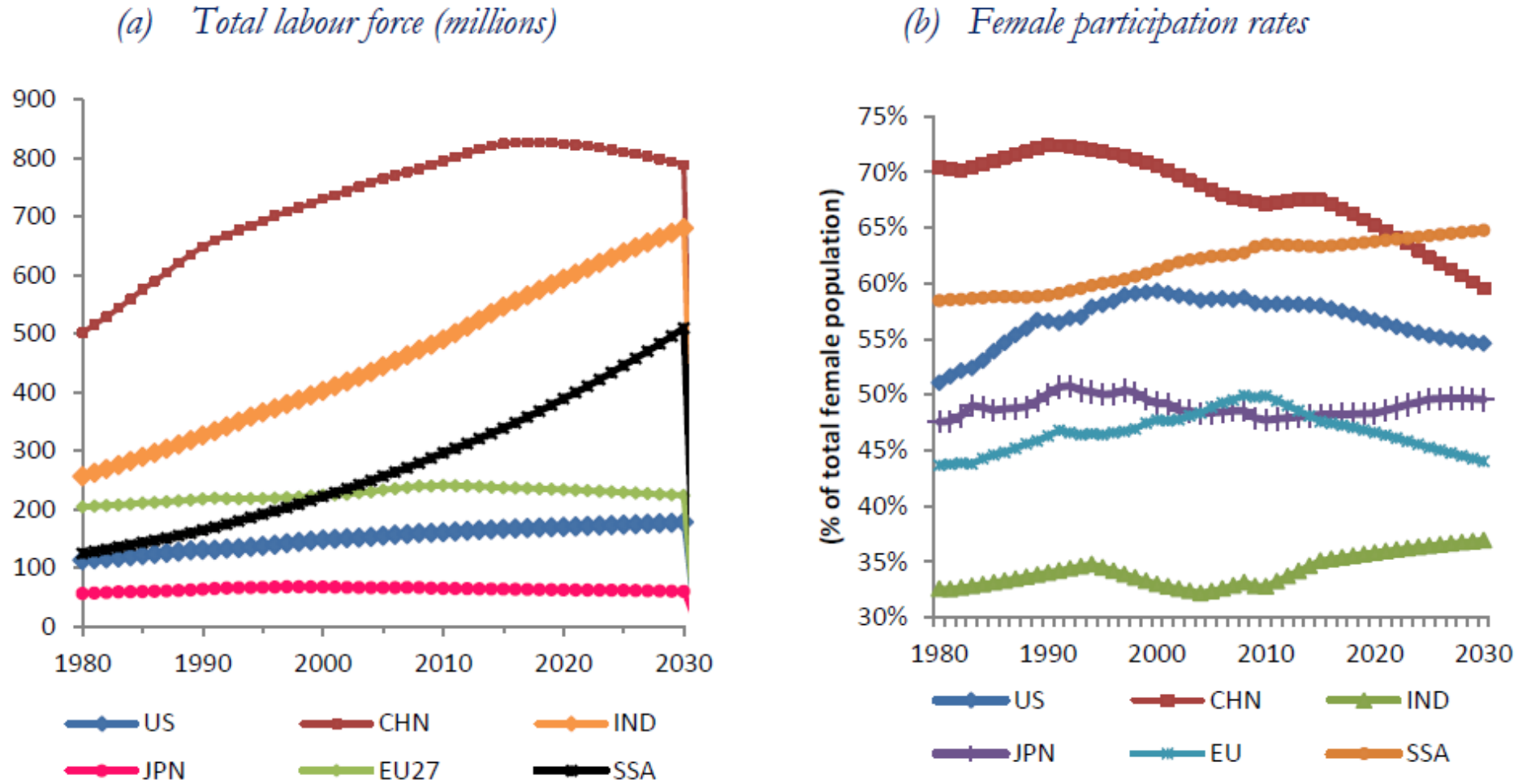




Figure 2.6 Changes in the global labour force (1980-2030)



Source: MaGE estimations and projections.



Figure 2.7 Paths of tertiary education expansion: MaGE Central scenario

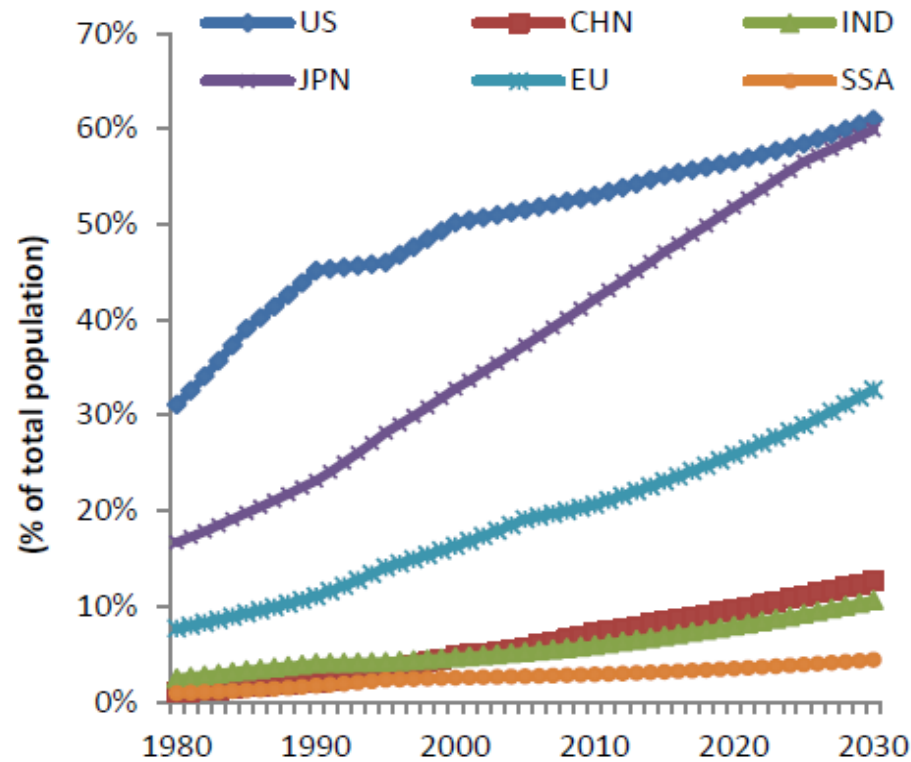
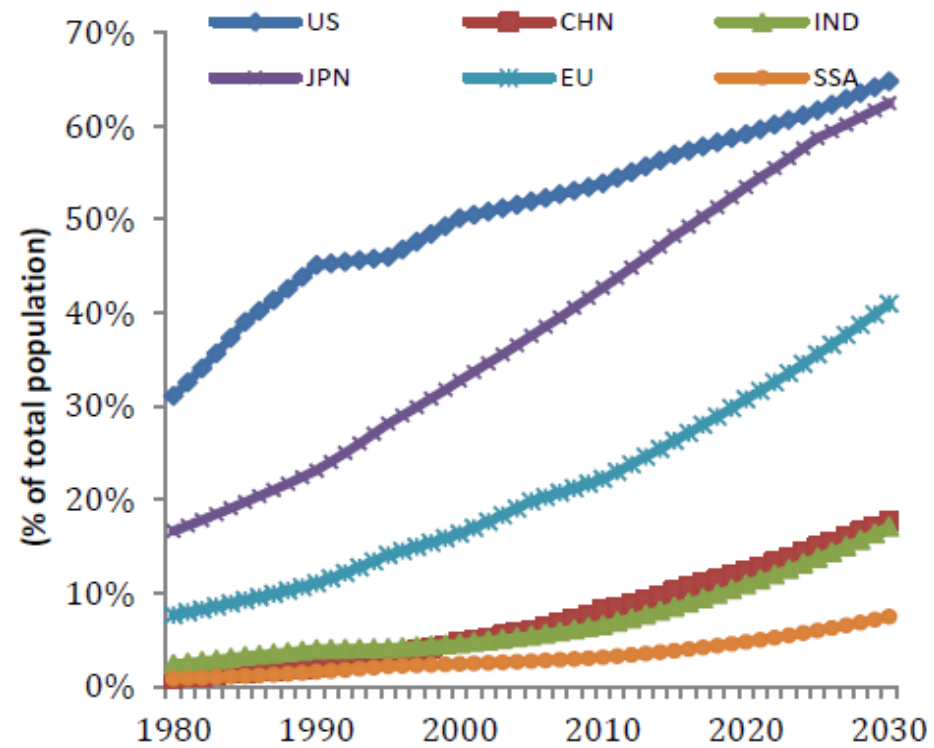


Figure 2.8 Paths of tertiary education expansion: MaGE alternative scenario



Source: MaGE estimations and projections.



Many theories and many approaches

- Economic, Sociologic
- Micro, Macro

There is no single theory widely accepted by social scientists to account for emergence and perpetuation of international migration

- **Fragmented set of theories developed in isolation from one another and usually segmented by disciplinary boundaries e.g. economics**

1- Macro Model

- **2- MICRO Model:**

- 2-a Human capital investment individual decision
- 2-b Family decision as insurance against income risk (Stark)
- 2-c Different utility of consumption (Faini)
- 2-d Roy Model self selection and skill

- **3-SOCIOLOGICAL model**

- **4-GRAVITY model**



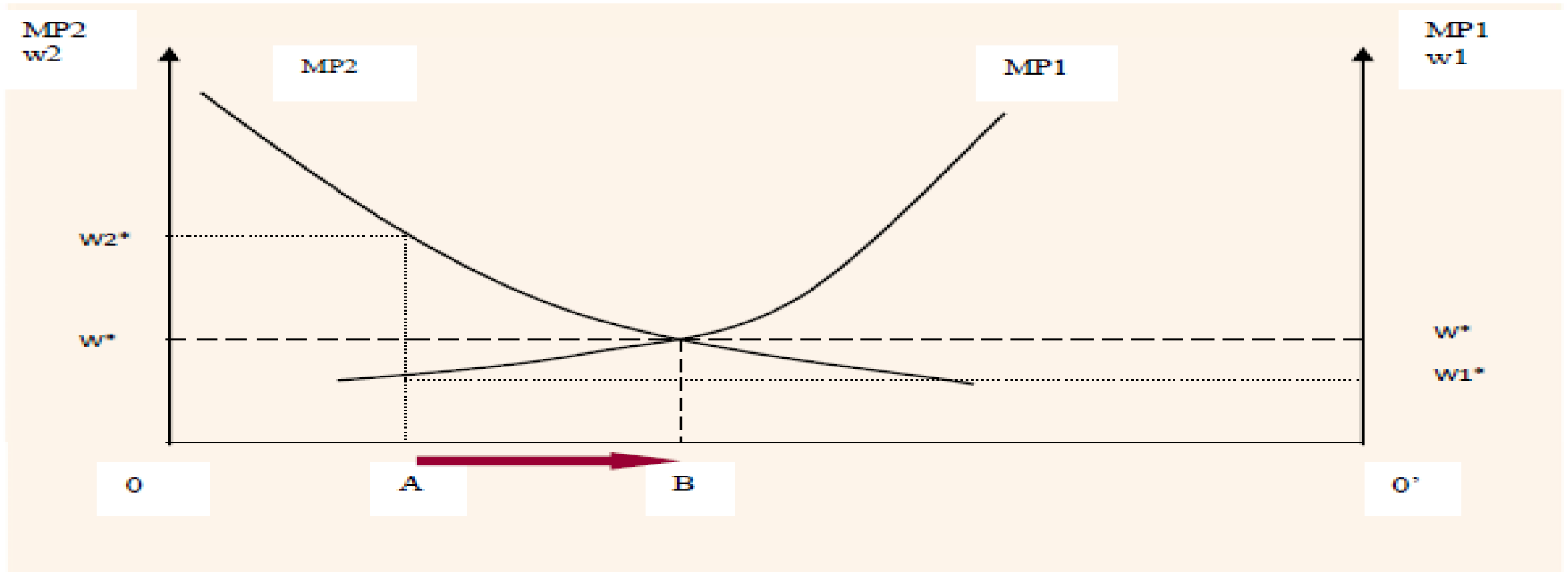
Macro model 1. Hicks

- Hicks (1932: 76): *„differences in net economic advantages,*
- *Chiefly differences in wages, are the main causes of migration”*



Assumptions:

- People are rational and tend to maximize their utility
- People are mobile
- -migration occur without costs
- -there is no risk or uncertainty



Source: Bhagwati and Srinivasan 1998: 468.



FIIT



2 Micro

2.a Individual model Investment in migration (Todaro)

- Assumptions:
- Individuals behave in a rational way, they gather all information and are capable to compare different locations
- Individuals have costless access to perfect information
- Individuals maximize their utility
- Migration has a temporal dimension – preferences regarding time and risk are important, individuals exhibit a more or less preference for the present
- **Migration decision is taken individually, social context is neglected.**



- **Labour mobility according to the human capital theory**
- Migration as an investment decision met with an intention to find maximal pay
- for a given level of skills investment which improves the productivity of human capital
- Idea: workers calculate the value of the employment opportunities available in each of the alternative labour markets, net out the costs of making the move
- and choose option which maximizes the net present value of lifetime earnings
- • Migration decision is guided by the comparison of the present value of lifetime
- earnings in the alternative employment opportunities net gain positive
- **Problems:** risk and uncertainty, costs (pecuniary and non-pecuniary)

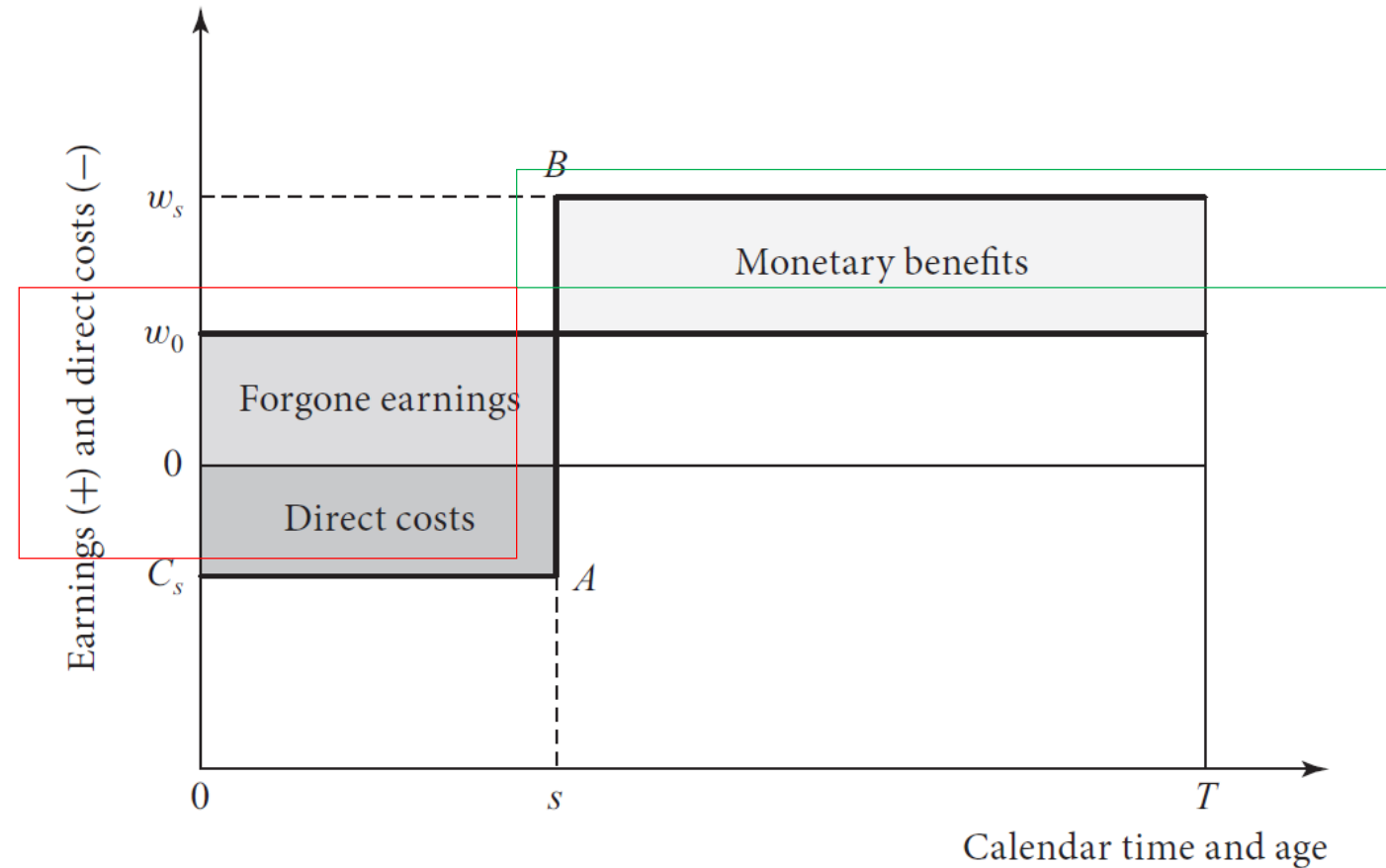


- Basic assumption human capital model:
 - 1 Migration \rightarrow higher wage
 - 2 Individuals' choice is based on financial considerations
- Investment decision:
 - Costs: direct expenses & forgone earnings
 - Benefits: higher wage (and employment rate)



Migration – Theory

Graphical representation of migration choice





Moving decision – theory

- $PV_0 = w_0 + \sum_{t=1}^T \frac{w_0}{(1+r)^t} \approx w_0 + w_0/r$
- $PV_{s+1} = -C_s + \sum_{t=1}^T \frac{w_{s+1}}{(1+r)^t} \approx -C_s + w_{s+1}/r$
- Migrate until $PV_0 = PV_{s+1}$: $(w_{s+1} - w_0)/r = w_0 + C_s$
- which means approximately: $\Delta w_s/w_0 = r$

Migration in Europe

MigrEU Jean Monnet Module

Co-funded by the
Erasmus+ Programme
of the European Union



year	2000	2001	2002
time	t	t+1	t+2
capital	100		
interest rate r	0.10	110	121
interest rate r	0.20	120	144

at the end of 3 periods the capital is 121 with an interest rate of 10%

at the end of 3 periods the capital is 144 with an interest rate of 20%

The higher the interest rate the higher the return,
the longer the period the higher the return

$$K_0 \quad K_1 = K_0(1+r) \quad K_2 = K_1(1+r) \quad K_2 = K_0(1+r)(1+r)$$

Attualization

$$K_2 / (1+r)(1+r) \quad 121 / (1,1 * 1,1) = 100 \quad r = 0.1$$

$$121 / (1,2 * 1,2) = 84 \quad r = 0.2$$



$$M = f(Wd - Wo) \quad (1)$$

Where $f > 0$, $M = 1, 0$, and $M = -1$ if $Wd > Wo$ and $M = 0$ if $Wd < Wo$.

$$Wd = \int_0^t Yd e^{-rt} dt - C \quad (2)$$

$$Wo = \int_0^t Yo e^{-rt} dt \quad (3)$$

Where M indicates the individual's decision to migrate, positive or zero, W_i $i = d, o$ represents the flow of future incomes discounted for the present, r is the discount rate, Y_i is the income in the two areas, and C is the cost of migration.



- **More problems:**
- • ***Potential migrants have perfect and costless information***
- Information is scarce and costly and limited information about economic
- and non-economic factors may lead to second-best solutions – individual may
- decide to stay even if it would be possible to realize a higher level of utility in a
- different location.
- • ***Potential migrants behave in unconditionally rational manner***
- Rational behavior in a situation where a decision between different options has
- to be made a decision maker possessing complete and unconstrained information
- opts for the alternative that allows him to realize the highest level of utility
- rather: *Bounded (conditional) rationality* - conditional on the incomplete
- information
- • ***The potential migrant is an autonomous human being with no social context***

Todaro model 2a bis



$$EW_o = \int_0^t P_2 Y_o e^{-rt} dt$$

$$EW_d = \int_0^t [P_1 Y_d + (1 - P_1) Y_{du}] e^{-rt} dt$$

In Todaro's study, the probability of finding work is linked to the rate of unemployment. Therefore, the expected income in the receiving area (E_wd) depends on the probability (P_1) of getting a job at wage Y_d and the probability ($1-P_1$) of receiving unemployment payments Y_{du} (which could be equal to zero) - equation 4. While in the departure country the expected wage (E_wo) is given by the probability P_2 of getting a job at wage Y_o (equation 5), generally considered to be equal to one.



Table 2.2. *Economic model of human capital*

	C	LDIF	Eo	Ed		Do	Db	Dg	Dsv	Rsq	n	F	Chow	TEt	LM	
2Po	-1.8 (-1.3)	2.2 (1.8)	.6 (.13)	9.9 (1.9)		-3.1** (-5)		-1.2** (-3.4)	-2** (-3)	.54 (-10)	96	19**	2.5	9	73	
	C	LDIF	Uo	Ud		Do	Db	Dg	Dsv	Rsq	n	F				
2Sp	-1.3 (-1.7)	3.2* (2.2)	.05* (2)	-0.6* (-9)		-3.6** (-8)	-4.9** (-10)	0.3 (.9)	-2.4** (-3)	.85	139	115**	6	13	77	
	C	LDIF	Uo	Ed		Do	Db	Du	Dsv	Rsq	n	F				
2Gr	-2 (-.3)	2 (2.4)	-.07** (-3.6)	6** (2.3)		-4.2** (-24)	-3.3** (-16)	-3.7* (-16)	-4.2** (-22)	.86	117	105**	1.4	5.7	62	
	C	LDIF	LDIF80	Eo	Eo80	Ed	Ed80	D80	Df	Do	Db	Du	Dsv	Rsq	n	F
2It	-.18 (-.9)	2.9** (3.8)	-2.8** (-3.3)	-12** (-3.5)	10 (.7)	11** (3.9)	-10** (-3)	-.09 (-.7)	-.10 (-.9)	-4.2** (-47)	-2.7** (-19)	-5.4** (-49)	-1.9** (-5.8)	.96	166	343*

C = constant.

Dependent variable: Emigration rate logarithm.

LDIF = per-capita income differential log receiving country over country of origin, Eo, Ed = level of increase in employment in the receiving country and the country of origin, Uo, Ud = level of unemployment in receiving country and country of origin.

Do = dummy for Netherlands, Db = Belgium, Dsv = Switzerland, Df = France, Dg = Germans for Spain and Portugal, Du = Sweden for Greece and Italy.

The constant for Italy and Greece is Germany; for Spain and Portugal, France.

Statistics: Rsq, n = number of observations, F = test of coefficients other than zero, t statistic under the corresponding variable. TEt = heteroscedasticity test of squared fitted values; Chow = test of parameter constants, LM = test of autocorrelation residuals, ** significant at 99% and * significant at 95%.



2.B Family decision as insurance against income risk (Stark)

- **Assumptions:**

- • Labour is a specific factor of production
- • Individuals are acting in a social context focus on the family or the household
- • Migration is to be perceived as a complex social phenomenon: „*Migration can be looked upon as a process of innovation, adoption and diffusion*” (Stark and Bloom 1985: 176)
- • Migration does not have to be permanent, in contemporary world temporary
- mobility is very common.
- **Side note:** Role of family / household in migration social structures, cognitive structures, gender roles etc. (Mincer, Boyd, Harbison etc.)



Key idea:

migration decisions are not made by isolated individuals but by larger units of related people (families, households, communities)

people can act collectively not only to maximize expected income but also

to **minimize risk** and to **loosen constraints** associated with various kinds of **market failures**

households are able to control risks to their economic well-being by diversifying the allocation of resources (family labour) to different labour markets.

- **Critical** risks and market failures: agriculture, labour market, pension system, financial market and credit market



- **Migration and risk diversification – an example:**
- A village household – 2 adults with following income patterns:
- „Good year” – $100 \times 2 = 200$
- „Bad year” – $50 \times 2 = 100$
- What happened if the amount of money necessary to survive equals 150?
- Migration to the town if the income in the town is perfectly negatively
- correlated with village income there is a chance to minimize risk
- completely...



Model 2.C Utility of Consumption (Faini)

$$[U(W_i, f_i)]$$

where W identifies the wage, f is the localization factor, and i is the area of destination (d) and the area of origin (o). It is reasonable to assume that wages in the area of destination are higher than wages in the area of departure, so we have $W_d > W_o$ and $f_o > f_d$. Migration will take place if the wage differential is large enough to compensate the worker for the loss of utility due to localization being less attractive.

Migration will take place if $U(W_d, f_d) > U(W_o, f_o)$. Later, the authors



$$\begin{aligned} \ln(M/P) = & \theta \ln X_0 + \theta \ln(W_d/W_0) - \theta \rho \ln W_0 + \theta \ln(f_0 - f_d) \\ & + \theta(1 + \rho) \ln f_0 + e a \ln W_0 + e b (\ln W_0)^2 - e \ln C \end{aligned}$$



Empirical version

- Testing the migration choice is very complex
- Which data could we use?
- Individual data with retrospective question
- Aggregate data in the country of destination



Table 4 Time series Regression for Italian Emigration 1878-1913

	Faini Venturini I	Faini Venturini II	Hatton Williamson III	Hatton Williamson IV
Dependent variable	LnM/Pop	M/Pop	M/Pop	M/Pop
Ln Wf/Wh	0.55 (2.14)	0.31 (1.51)	9.67 (1.31)	9.23(2.91)
LnWh			6.19 (0.52)	1.56(0.21)
Ln Yh	1.13 (3.9)	1.21 (3.51)		
LF/Popf	5.37 (3.27)	12.3 (4.18)*	45.1 (3.0)	39.7 (3.03)
LF/Poph	-0.84 (2.26)	-0.58(1.14)*	-12.2 (1.30)	-7.27(0.90)
GrowthPopt-20	-0.001 (1.0)	-0.001(0.84)	1.07(1.58)	0.72(1.16)
Trend	0.01 (2.36)	0.09(2.96)	0.19(0.95)	
Stock Mig.f				0.13 (2.75)
Dummy for 1901- 1913			5.91(3.32)	4.85(2.95)
Lagged emigration rate(t-1)	0.72 (12.5)	0.70 (10.8)	0.25 (1.56)	0.06 (0.04)
Lagged emigration rate(t-2)			-0.49(3.24)	-0.55 (4)

	Early 1980s	Early 1990's	Late 1990's
Belgium	9.0	9.1	9.2
France	6.8	6.3	6.3
Germany	7.4	8.5	9.0
Italy	0.7	1.7	2.1
UK	2.8	3.5	3.6
USA	6.2	7.9	10.1
Canada	16.1	16.1	17.4

Table 1

Foreign population in the past two decades (percent of total population)

Source: SOPEMI.



	Greece	Spain	Portugal	Turkey
Constant	-189 (4.17)	-160 (1.44)	-159 (3.87)	-234 (2.6)
LY	45.2 (4.33)	36.7 (1.82)	37.9 (3.77)	57.9 (2.5)
LYSQ	-2.7 (4.40)	-2.1 (1.77)	-2.3 (3.69)	-3.6 (2.4)
LDIF	3.4 (1.68)	4.36 (2.72)	3.12 (3.23)	.39 (.32)
U_i^1	.03 (1.03)	-.01 (.56)	.42 (3.73)	.01 (.33)
U_n	-.11 (2.30)	-.08 (1.07)	-.09 (1.68)	-.22 (4.1)
EG_n^2	4.6 (1.62)	10.4 (2.52)	10.3 (2.19)	15.6 (3.1)
$EG80_n$	-----	-----	-----	8.26 (2.0)
$\ln(M/P)_{-1}$.37 (5.90)	.65 (5.97)	.34 (2.45)	.26 (2.3)
D	-.87 (11.2)	-----	.84 (13.7)	-----
R^2	.96	.94	.96	.91
DW	1.48	2.25	1.92	1.89
SER	.15	.21	.18	.20
LM ($\chi^2(1)$)	2.37	.41	.05	.28
Chow ($F_{1,18}$)	0.17	0.41	0.32	3.37
H ($\chi^2(1)$)	.62	.61	.61	5.87
Sample period	1961-1988	1961-1988	1961-1988	1962-1988



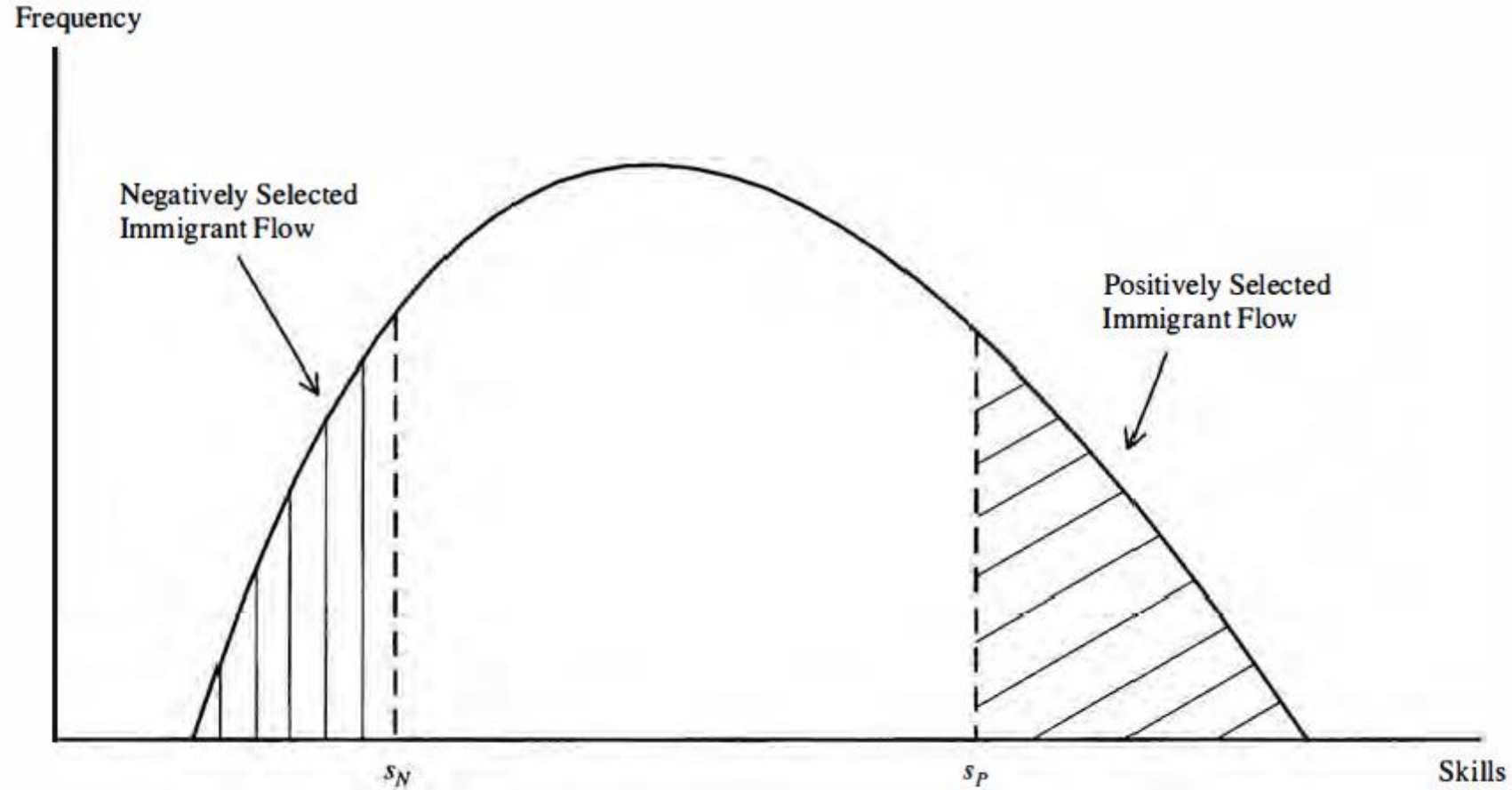
2.D The Roy model

Although it is important to determine the size and direction of migration flows, it is equally important to determine *which* persons find it most worthwhile to migrate to the receiving country. Even in the absence of legal restrictions impeding international migration, only a subset of persons in the host country chooses to move.

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2.D Roy Model



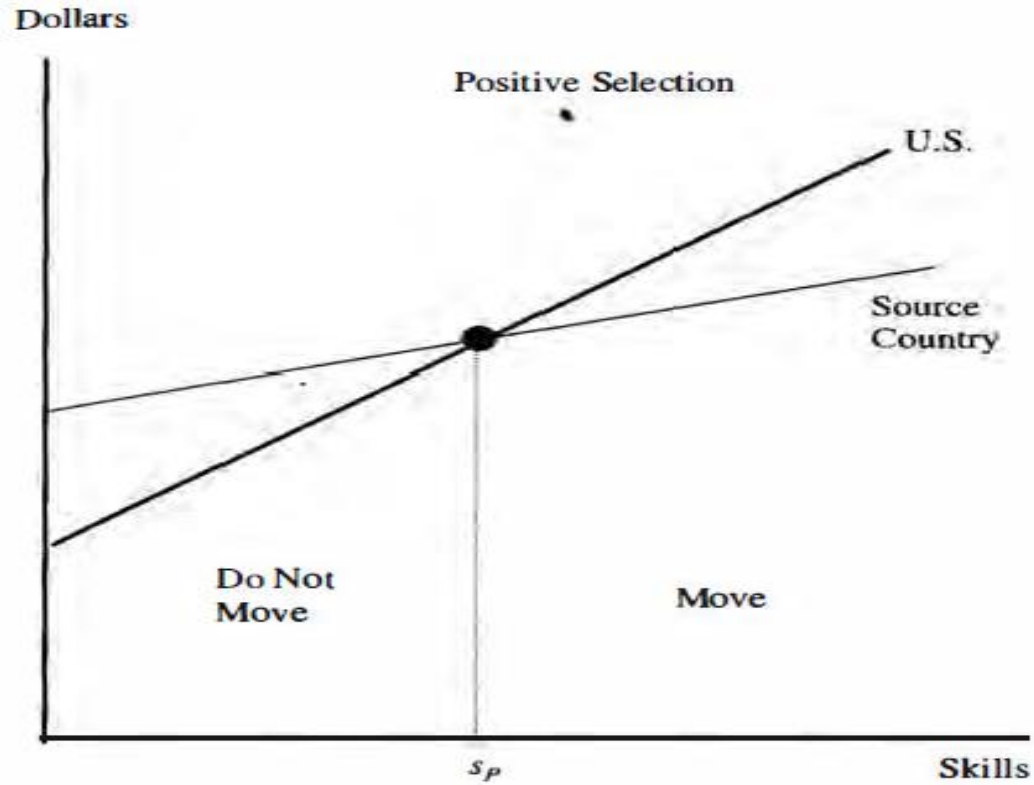


r_0 and r_1 are the return of skill in the two labour markets
if abilities are perfectly transferable from one labour market to the other

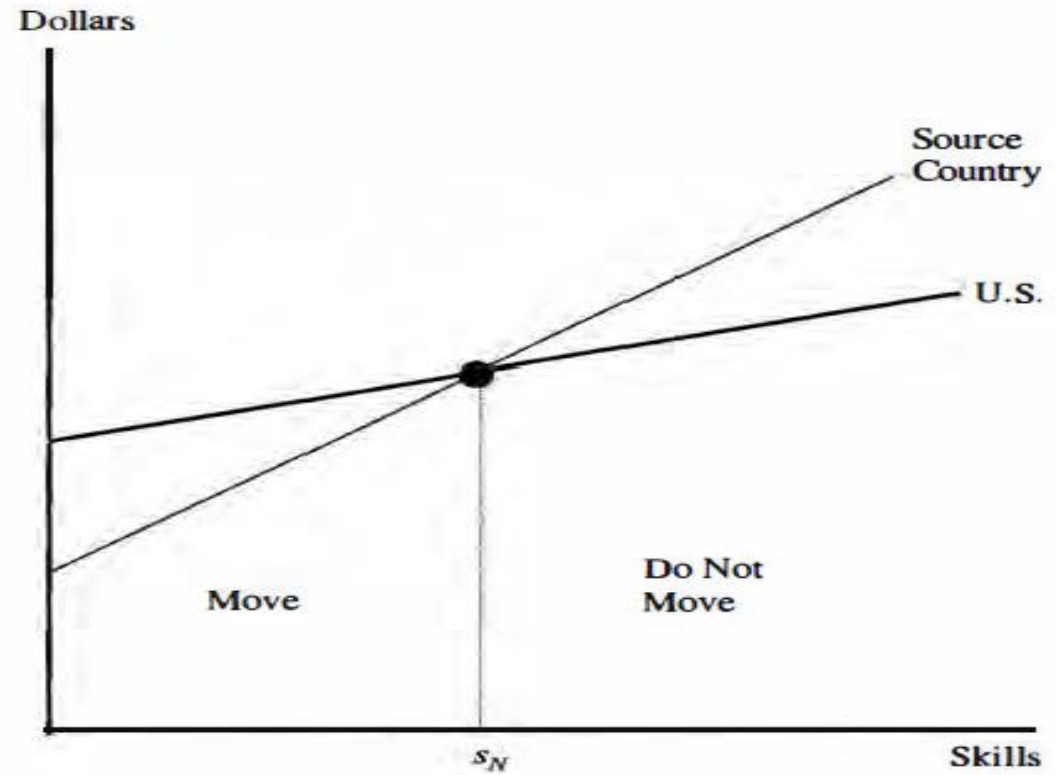
$$\log w_0 = \alpha_0 + r_0 s,$$

$$\log w_1 = \alpha_1 + r_1 s,$$

Self Selection



(a) Positive selection



(b) Negative selection

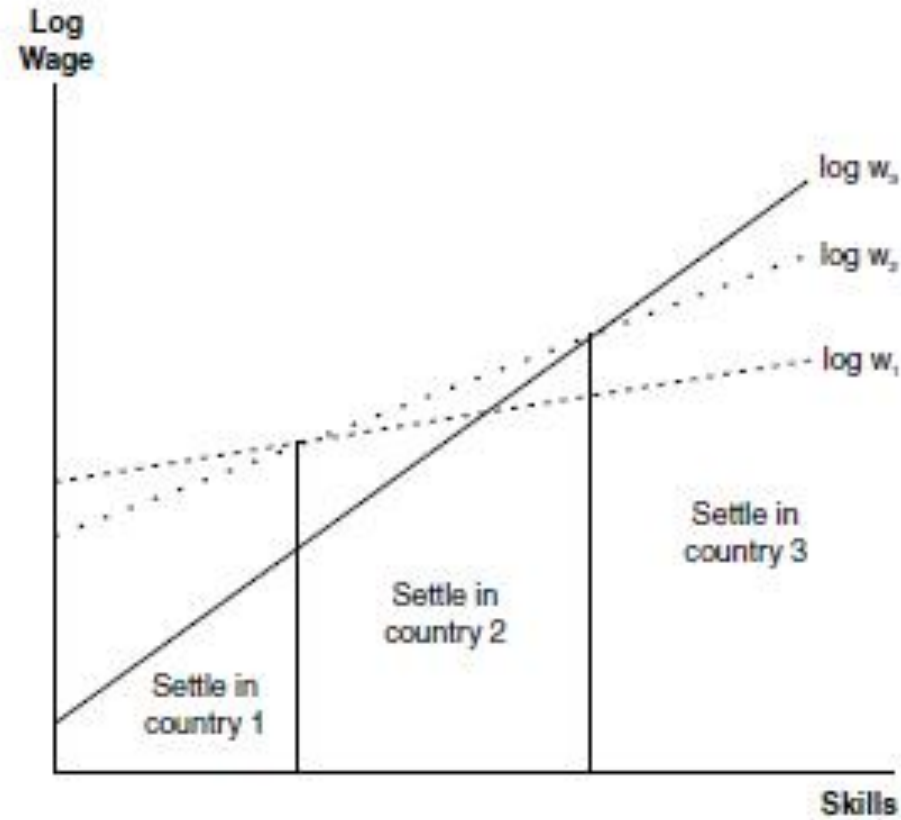
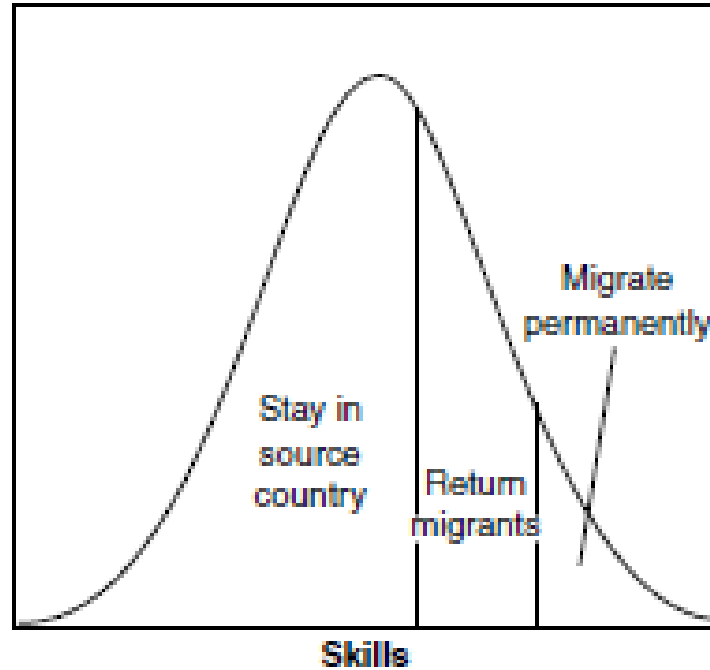
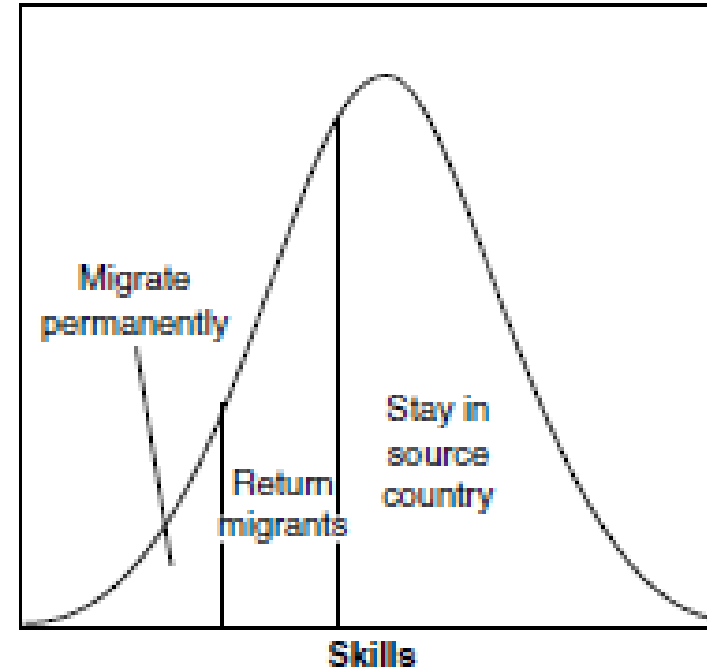


Figure 1.2. Selection in a Roy Model with Multiple Destinations



A. Positive Selection



B. Negative Selection

Figure 1.3. Distribution of Skills and Selection in a Roy Model with Return Migration



3 Sociological model or network effect

The cost of migration and the information of the destination country are diffused by the community abroad, the diaspora.

The network drives the inflows.

In the empirical version is used the stock of migrants abroad or the sum on the last 10 years inflows



4 Gravity model

- Empirical versions of the gravitational approach to migration do not have
- a definite standard form, but it is generally represented as [a,b].¹¹
- (a) $M_{ij}/(P_i P_j) = B_i A_j f(D_{ij})$
- (b) $M_{ij} = P_i P_j B_i A_j \exp(D_{ij})$ **(20)**
- where M_{ij} represents the net flow of immigrants from i to j ;
- as previously mentioned, $P_{i,j}$ is the population in i and j ;
- A_j and B_i represent the factors of attraction and expulsion;
- and D is the distance between i and j .



- The version proposed here (21) enables the results of this estimate to be compared with those of other models.
- It uses the rate of emigration (M_{ij}/P_i) as a dependent variable
- and uses the respective rates of activity (F_{li}/P_i and
- F_{Lj}/P_j) as factors of attraction and the distance.¹²
- $M_{ij}/P_i = F_{li}/P_i F_{Lj}/P_j D_{ij}$



- Beine, Bertoli, Fernández-Huertas Moraga. "A practitioners' guide to gravity models of international migration." *The World Economy* (2015).

Use Flow or stock flows , Population differential, GNP differential, Distance, language, colonial ties
fixed effects,
impact in the choice of the other destination,
new : trade (Campaniello, 2015), trade of cultural goods (Lanati Venturini, 2016)



Table 1 – Benchmark Model (Pooled OLS)

	(1)	(2)	(3)	(4)	(5)
	ln(EM _{in,t} + 1)	ln(EM _{in,t} + 1)	ln(EM _{in,t} + 1)	ln(EM _{in,t} + 1)	ln(EM _{in,t} + 1)
ln(ImpTot _{ni,t-1})		0.138 ^{***} (5.83)	0.144 ^{***} (5.85)	0.138 ^{***} (5.84)	0.143 ^{***} (5.81)
ln(ImpCultShare _{ni,t-1})		0.068 ^{***} (6.74)	0.070 ^{***} (6.63)	0.066 ^{***} (6.59)	0.068 ^{***} (6.45)
ln(ImpCult)	0.070 ^{***} (7.02)				
ln(ExpTot _{in,t-1})	0.062 ^{***} (5.18)	0.049 ^{***} (4.29)	0.047 ^{***} (3.84)	0.050 ^{***} (4.28)	0.047 ^{***} (3.84)
ln(ImmStock _{in,t-1})	0.540 ^{***} (13.96)	0.534 ^{***} (13.77)	0.537 ^{***} (13.34)	0.527 ^{***} (13.52)	0.530 ^{***} (13.07)
Indist _{ni}	-0.311 ^{***} (-5.79)	-0.241 ^{***} (-4.29)	-0.231 ^{***} (-3.97)	-0.245 ^{***} (-4.34)	-0.236 ^{***} (-4.02)
Colony _{ni}	0.572 ^{***} (4.29)	0.537 ^{***} (4.12)	0.500 ^{***} (3.80)	0.551 ^{***} (4.20)	0.512 ^{***} (3.87)
Lang _{ni}	0.270 ^{***} (2.78)	0.279 ^{***} (2.85)	0.290 ^{***} (2.93)	0.288 ^{***} (2.94)	0.300 ^{***} (3.02)
Comleg _{ni}	0.078 (1.14)	0.059 (0.69)	0.055 (0.79)	0.060 (0.87)	0.054 (0.78)
lnGDPppc _{i,t-1}	-0.847 ^{***} (-7.01)	-0.881 ^{***} (-7.23)		-0.859 ^{***} (-6.97)	
lnGDPppc _{n,t-1}	0.541 ^{***} (5.59)	0.497 ^{***} (5.19)	0.467 ^{***} (4.27)		
<i>S_i</i>	X	X	X	X	X
<i>S_n</i>	X	X	X	X	X
<i>S_t</i>	X	X	X	X	X
<i>S_{n,t}</i>				X	X
<i>S_{i,t}</i>			X		X
<i>N</i>	8579	8565	8655	8565	8655
<i>R-sq</i>	0.85	0.85	0.85	0.85	0.87

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Standard Errors are clustered by country pair. The model includes the intercept



Spain

immigration flows

7.1

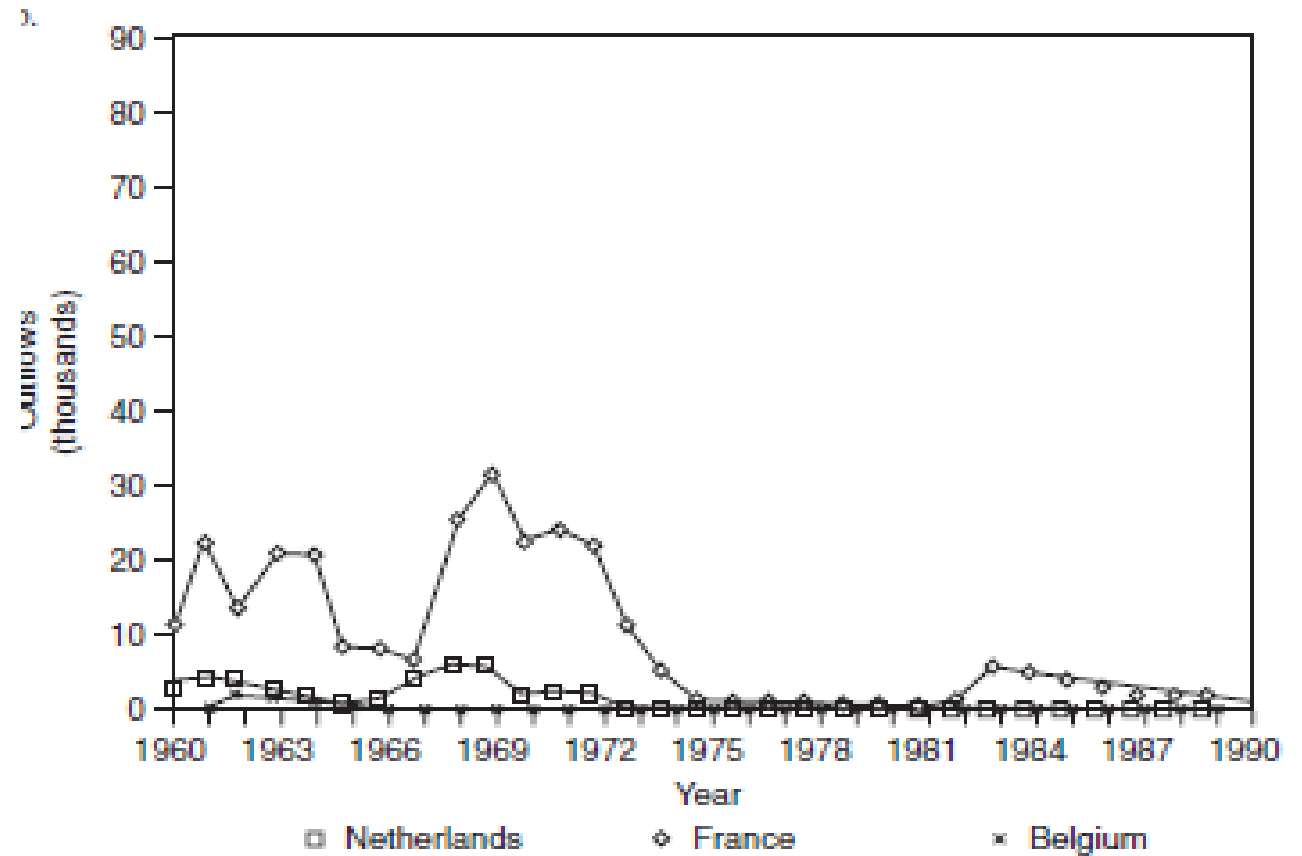
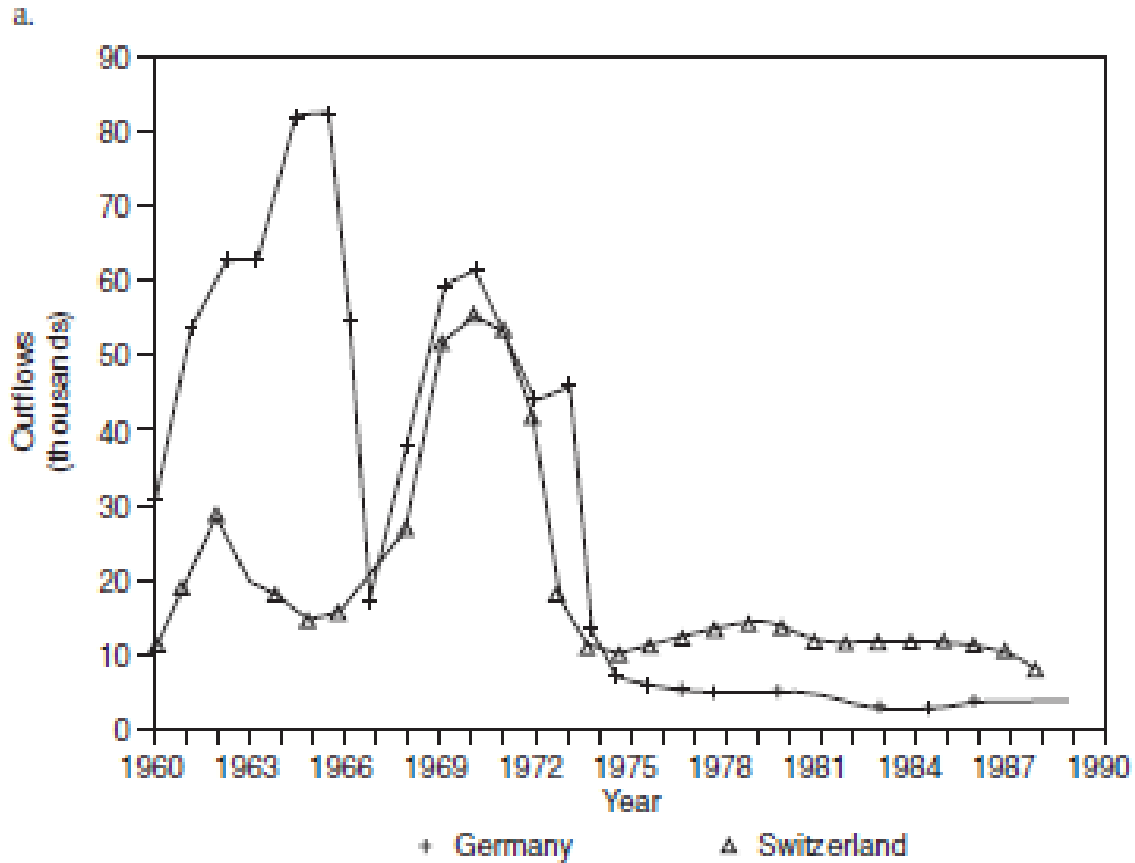


Figure 2.3. Gross emigration flows from Spain to the northern European countries.

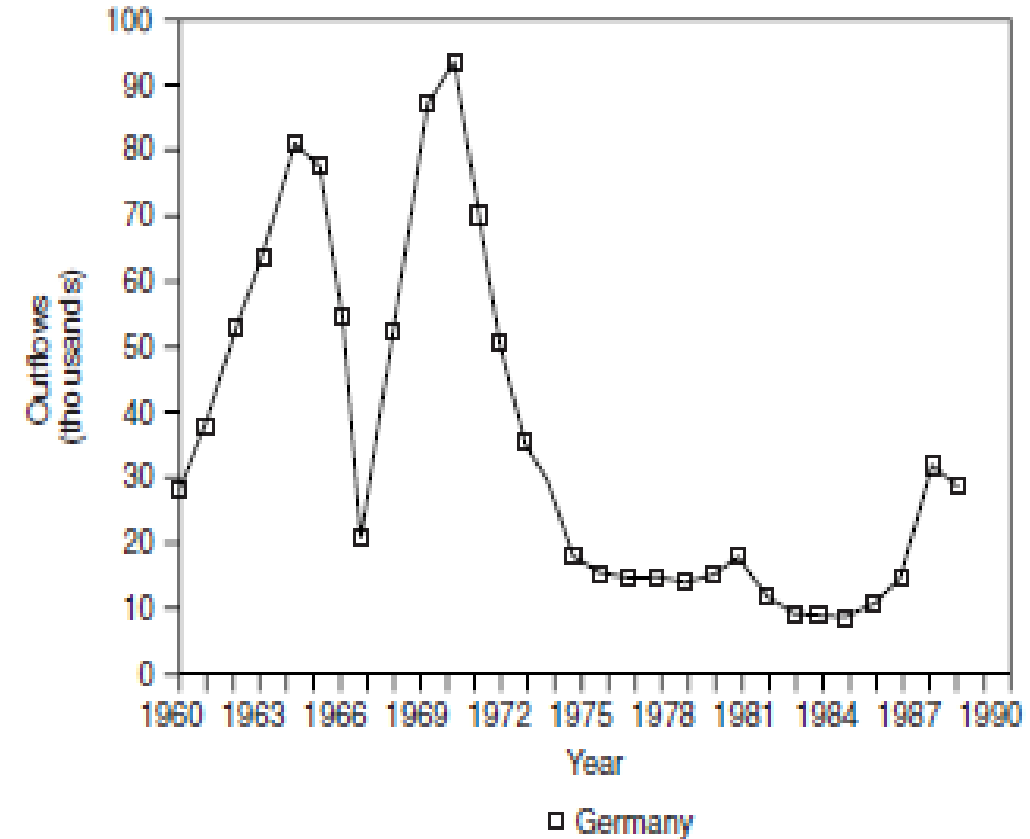
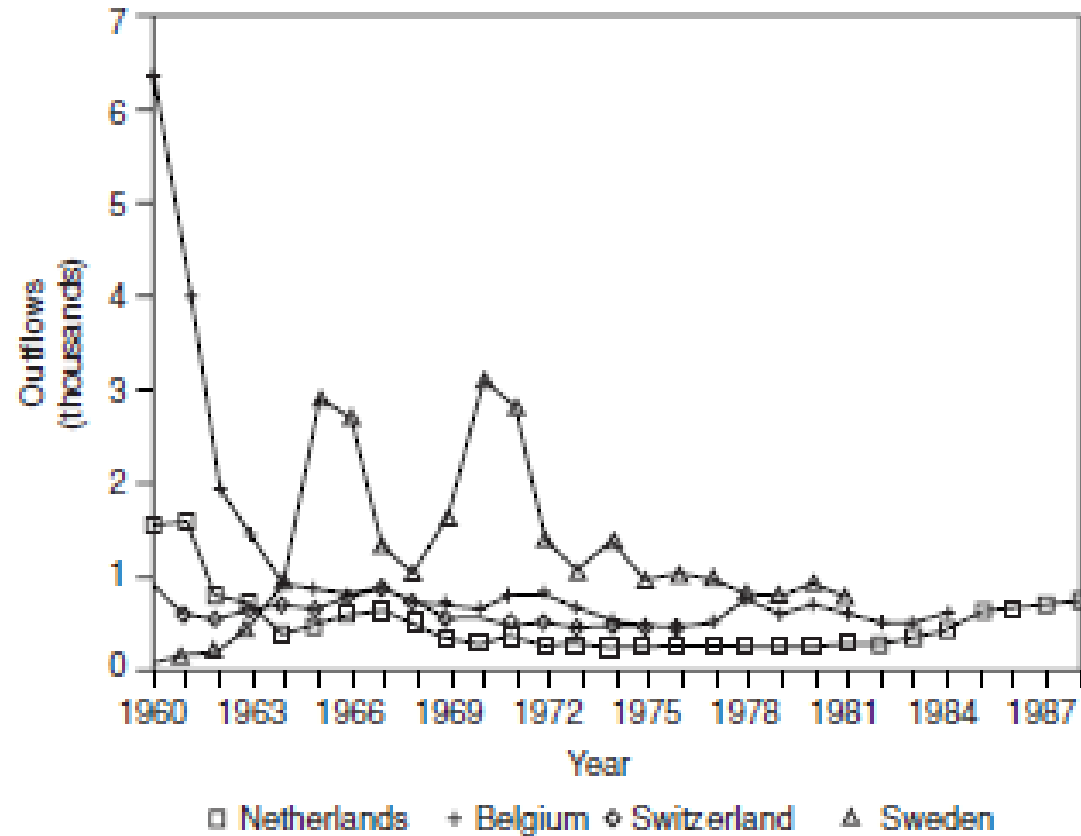


Figure 2.5. Gross emigration flows from Greece to the northern European countries.

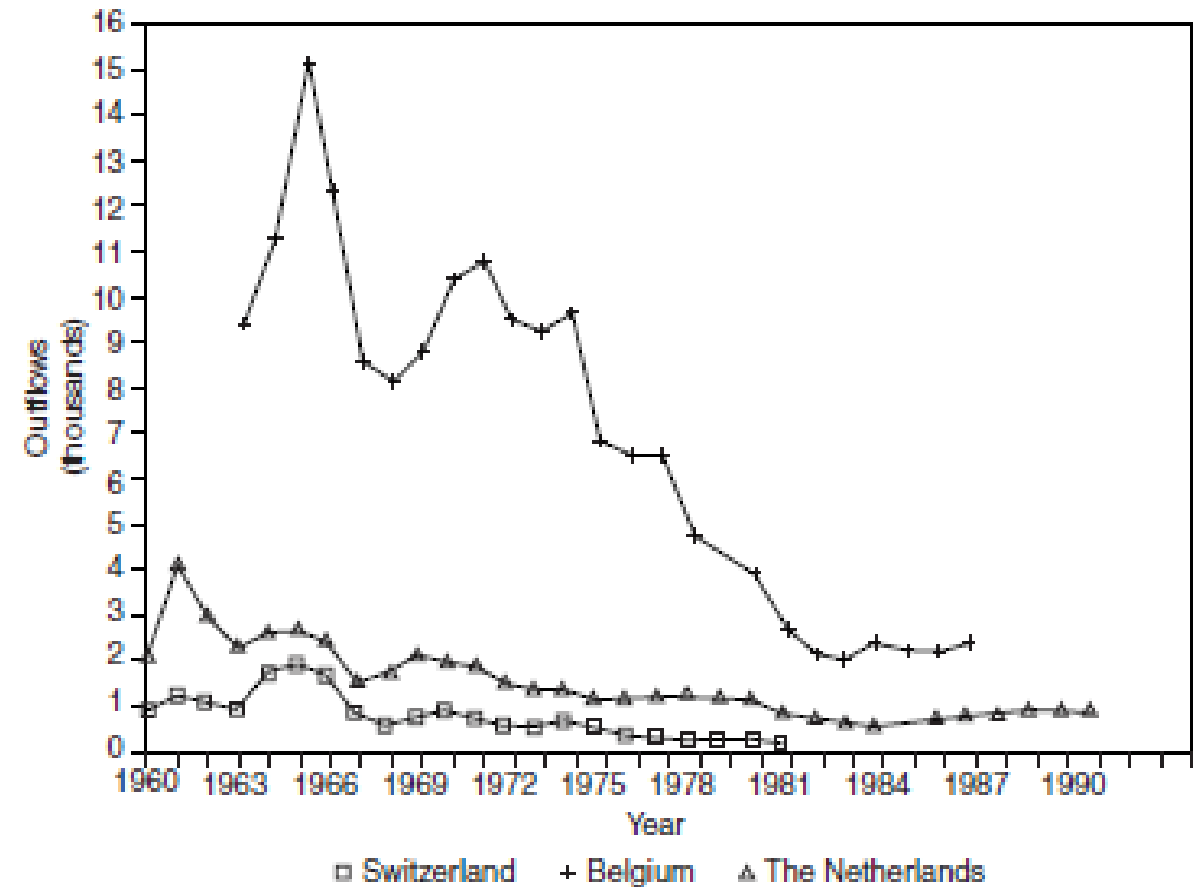
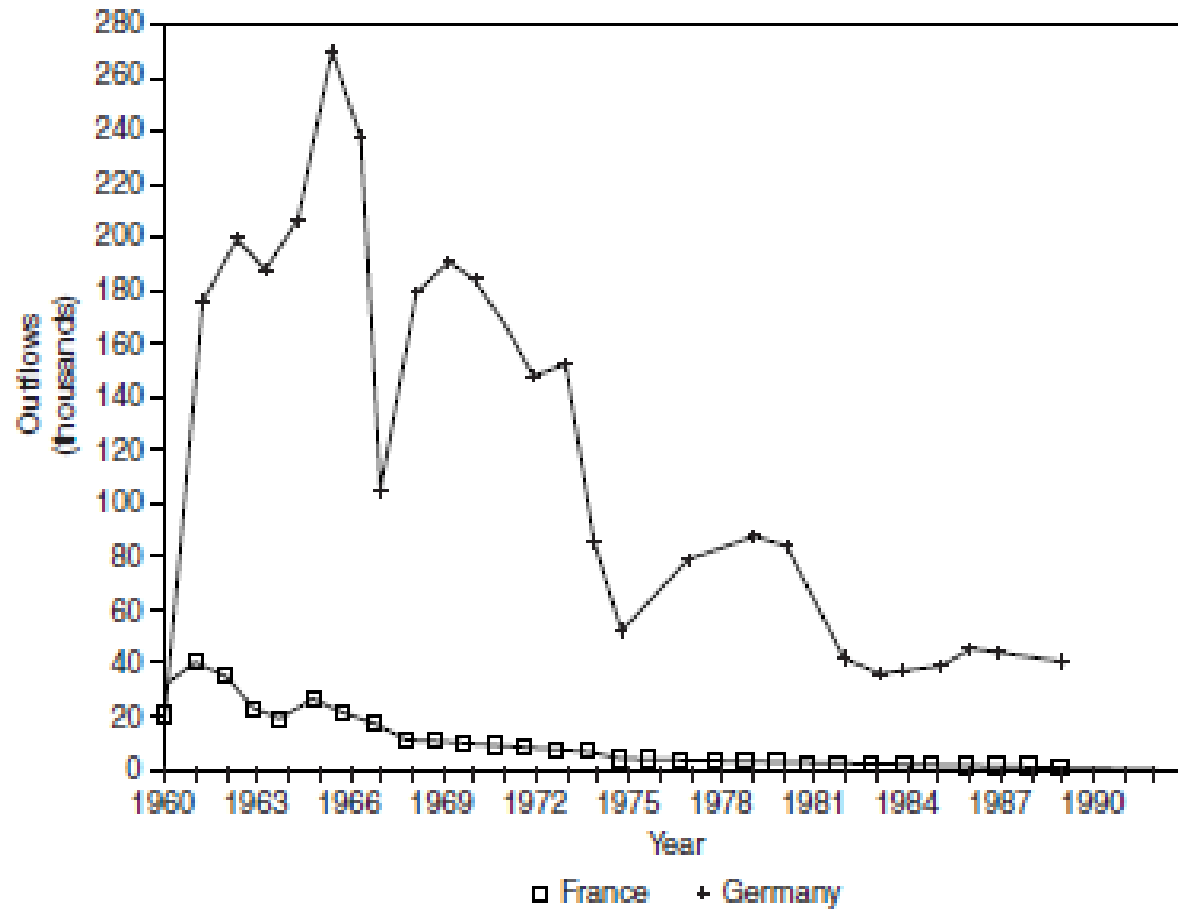


Figure 2.4. Gross flows of emigrants from Italy to the northern European countries.

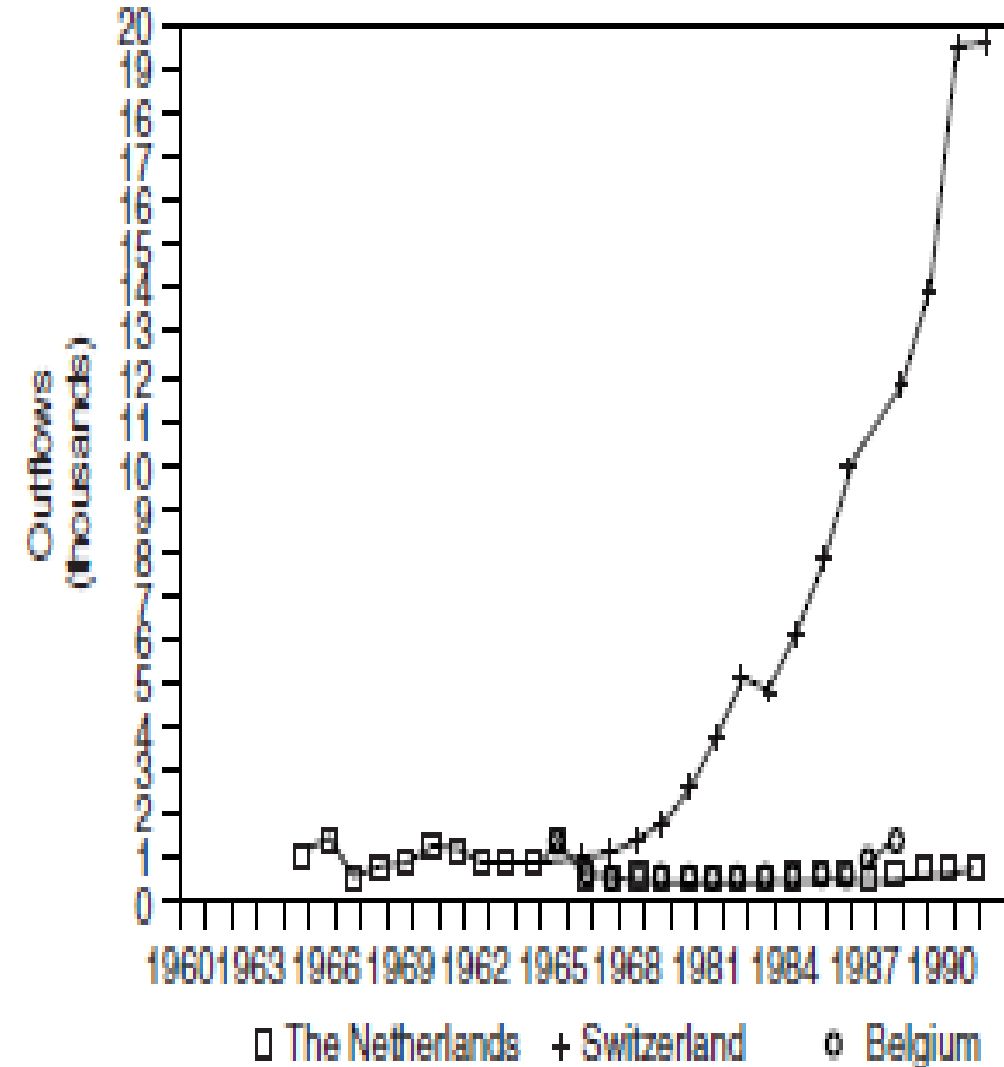
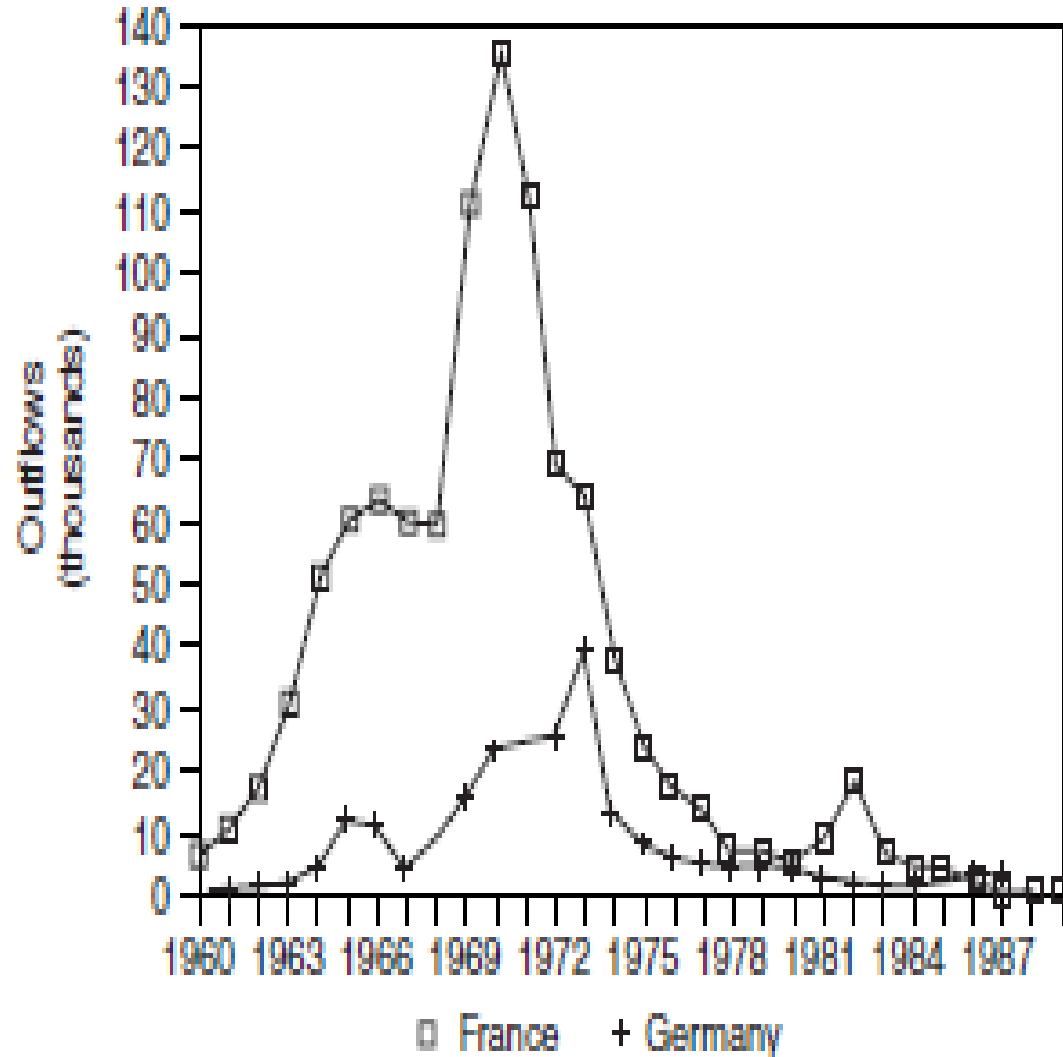


Figure 2.6. Gross emigration flows from Portugal to the northern European countries.



Table 2.1. *Gravitational model*

Country	C	LFo	LFd	LDod	LDodSq	Rsq	n	F	Chow	T.Et.	LM
1 Portugal	7,105** (4.8)	-10** (-4.4)	6.1** (4.5)	-1,861** (-4.8)	121** (4.8)	0.54	96	29**	6	10	69
1 Spain	6,336** (9.4)	45** (8)	22** (12)	-1,716** (-9)	117** (-9.3)	0.62	144	61**	9	0.8	103
1 Greece	86** (5.3)	4.2 (1.5)	2.7** (2.3)	-10** (-5)	-	0.25	117	13**	5	26	99
1 Italy	30** (7.8)	0.5 (0.2)	0.18 (0.2)	-4** (-12)	-	0.37	166	33**	6	16	150

C = constant,

Dependent variable: Emigration rate logarithm,

LFo = activity rate log of origin country, LFd = activity rate log of departure country,

LDod = distance from departure-destination country log, LDodSq = distance squared,

T.Et. = eteroschedasticity test of squared fitted values, Chow = test of constant parameters,

F = test of coefficients other than zero, LM = test of autocorrelation of residuals,

n = number of observations; t statistic of the corresponding variable in parentheses, ** 99% significant, * 95% significant.



Table 2.3. Migratory chain model

	C	LDIF	Eo	Ed	Lep(-1)			Do	Dg	Dsv	Rsq	n	F	Chow	TBt	LM			
3.1Po	-1.5 (1)	1.4** (3.6)	-3.2 (-1.8)	7.89** (3)	.93 (19)			-0.16 (-1)	-0.07 (-0.5)	-0.15 (-1.4)	.94	92	239**	2.5	.34	.18			
3.2Po	C -10 (-3.3)	LDIF 7.7* (2.6)	Eo 1.7 (.25)	Ed 8* (2.1)	Se .6e-4** (4)	Sesq -.28e-9* (-2)		Do .5 (.6)		Dsv -.5 (-1.1)	.63	45	11**	1.6	2.2	.35			
3.1Sp	C -2.1 (-5)	LDIF 4.3** (5.7)	Uo 0.02 (1.7)	Ud -0.16** (-2.9)	Lep(-1) 0.7** (13)			Do -0.7** (-2.6)	Db -.7* (-1.8)	Dg -0.05 (-0.4)	Dsv -1.8 (-4.7)	.94	139	283**	8	32	1		
3.2Sp	C -3.9 (-4)	LDIF 3 (3.7)	Uo -.03 (-2)	Ud -0.17 (-1.9)	Se 0.11e-4* (2.4)			Do -.9* (-7.6)		Dg -4.7** (-5)	Dsv -0.02 (-0.03)	.97	64	322**	7	20	2.3		
3.1Gr	C -.5 (.2.3)	LDIF 1** (2.9)	Uo -.5e-2 (-4)	Ud 4.6* (2.7)	Lep(-1) 0.73** (13)			Do -1.1** (-4.7)	Db -.9** (-4.9)	Dsu -.9** (-4.7)	Dsv -1.2** (-4.2)	.97	112	553**	8	2.8	1.2		
3.2Gr	C -5.6 (-3)	LDIF 5.2** (4.5)	Uo 0.02 (.7)	Ud -0.15** (-3.7)	Se 0.16e-4** (4.5)	Sesq -.2e-10 (-3)		Do -.1 (-.1)	Db 0.8 (1.3)		Dsv -2.3** (-5)	.97	60	350**	8	.009	.23		
3.1It	C 0.7e-2 (.08)	LDIF 0.9 (2)	Ldif80 -0.9 (-1.9)	Eo -3.7 (-1.6)	Ud -0.03 (-24)	D80 .23 (1.6)	Lep(-1) 0.76 (9.7)	Df 0.09 (1.6)	Do -0.9** (-2.9)	Db -0.5** (-3.6)	Dsu -1.3** (-3)	Dsv 0.67** (2.7)	.98	160	966**	8	1.4	2.9	
3.2It	C -.21 (-.05)	LDIF 2.7 (2.7)	Ldif80 .42 (.59)	Eo -6.8 (-1.7)	Ud -.2 (-7)	Ud80 .08 (2)	D80 -.02 (-1)	Se 0.4e-5 (.4)	Sesq -0.45e-11 (-.4)	Do -3.3 (1.1)	Db -1.5 (-5)	Dsu -5.3 (-28)	Dsv -3.2 (-13)	.97	64	290**	1.6	.31	11

C = constant,

Dependent variable: Emigration rate log

LDIF = per-capita income differential log in receiving country and country of origin; Eo, Ed = rate of increase of employment in country of origin and receiving country, Uo, Ud = level of unemployment in country of origin and receiving country, Lep(-1) = rate of lagged emigration, Se = stock of foreign population in receiving country, Sesq its square.

Do = dummy for Netherlands, Db = Belgium, Dsv = Switzerland, Df = France, Dg = Germany for Spain and Portugal, Dsu = Sweden for Greece and Italy.

The constant for Italy and Greece is Germany; for Spain and Portugal, France.

Statistics: Rsq, n = number of observations, F = test for coefficients other than zero, and t bracketed statistic under the corresponding variable, TBt = heteroscedasticity test of squared fitted values, Chow = test of parameter constants, LM = test for autocorrelation residuals, ** significant at 99%, * significant at 95%.



The gravity model is as follows:

$$\ln(EM_{in,t}) = \ln(\text{ImpCult}_{ni,t-1}) + \ln(\text{ImmStock}_{in,t-1}) + \\ \ln(\text{dist}_{ni}) + \text{Colony}_{ni} + \text{Lang}_{ni} + \text{Comleg}_{ni} + S_{i,t} + S_{n,t} + \\ u_{ni,t} \quad (1)$$



	(1)	(2)	(3)	(4)	(5)	(6)
	$\ln(EM_{in,t})$	$\ln(EM_{in,t})$	$\ln(EM_{in,t})$	$\ln(EM_{in,t})$	$\ln(EM_{in,t})$	$\ln(EM_{in,t})$
$\ln(\text{ImpTot}_{ni,t-1})$		0.163*** (6.74)	0.167*** (6.70)	0.164*** (6.76)	0.167*** (6.68)	0.188*** (6.11)
$\ln(\text{ImpCultShare}_{ni,t-1})$		0.071*** (7.06)	0.073*** (6.92)	0.069*** (6.90)	0.071*** (6.74)	0.071*** (6.74)
$\ln(\text{ExpTot}_{ini,t-1})$						0.094*** (4.30)
$\ln(\text{ExpCultShare}_{in,t-1})$						0.060** (3.32)
$\ln(\text{ImpCult}_{ni,t-1})$	0.084*** (8.26)					
$\ln(\text{ImmStock}_{in,t-1})$	0.550*** (14.45)	0.540*** (14.00)	0.544*** (13.62)	0.533*** (13.78)	0.536*** (13.34)	0.509*** (10.27)
Indist_{ni}	-0.354*** (-6.74)	-0.264*** (-4.78)	-0.253*** (-4.42)	-0.269*** (-4.84)	-0.258*** (-4.47)	-0.258*** (-4.47)
Colony_{ni}	0.589*** (4.38)	0.553*** (4.22)	0.518*** (3.93)	0.567*** (4.30)	0.531*** (4.00)	0.453** (3.22)
Lang_{ni}	0.240** (2.46)	0.268** (2.68)	0.270** (2.74)	0.272** (2.77)	0.279** (2.82)	0.377*** (3.42)
Comleg_{ni}	0.116 (1.71)	0.079 (1.16)	0.075 (1.08)	0.080 (1.17)	0.075 (1.08)	0.041 (0.52)
$\ln\text{GDPpc}_{i,t-1}$	-0.845*** (-7.74)	-0.912*** (-7.49)		-0.890*** (-7.23)		
$\ln\text{GDPpc}_{n,t-1}$	0.506*** (6.06)	0.495*** (5.17)	0.446*** (4.16)			
S_i	X	X	X	X	X	X
S_n	X	X	X	X	X	X
S_t	X	X	X	X	X	X
$S_{n,t}$				X	X	X
$S_{i,t}$			X		X	X
N	8628	8628	8689	8626	8687	6988
R-sq	0.83	0.84	0.85	0.85	0.85	0.84



- http://www.mipex.eu/sites/default/files/downloads/mipex_indicators_2010.pdf
- <http://WWW.MIPEX.eu>
-
- Infographic
- http://www.mipex.eu/sites/default/files/downloads/pdf/MIPEX_results_in_fograph.pdf



Strictness of immigration policy in 12 European countries (1994-2005)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Country	# admission req.	# residence req.	# years to obtain perma residence	# admin. involved	Length of the first stay	Existence of a quota system	Asylum legislation	Overall index
Austria	0	4.5	1	4	2	4	4	2.8
Denmark	0	6	2	4	4	2	4.5	3.2
Finland	4	3	1	2	4	2	3.5	2.8
France	0	0	1	2	2	2	3.5	1.5
Germany	0	6	1	2	2	2	5	2.6
Greece	0	3	4	4	2	2	4	2.7
Ireland	2	4.5	4	4	2	2	2	2.9
Italy	4	4.5	2	2	2	4	3.5	3.1
Netherlands	4	1.5	1	4	4	2	4.5	3
Portugal	4	3	3	2	2	4	3.5	3.1
Spain	6	1.5	1	4	2	4	4	3.2
United Kingdom	2	1.5	4	4	2	2	4.9	2.9