



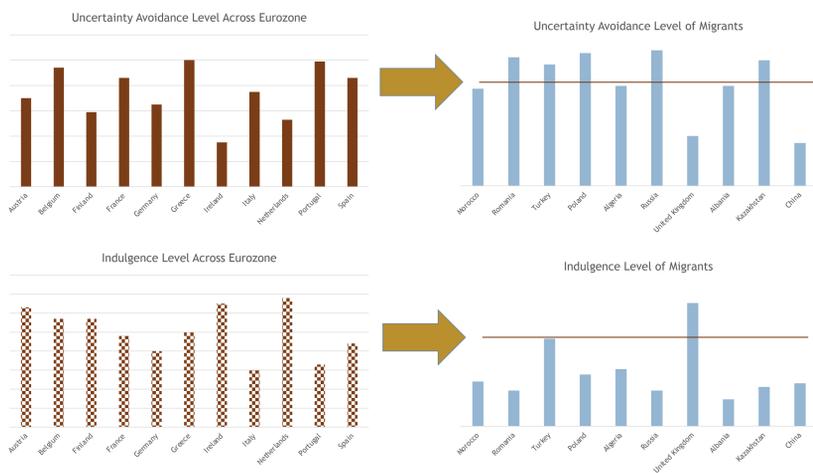
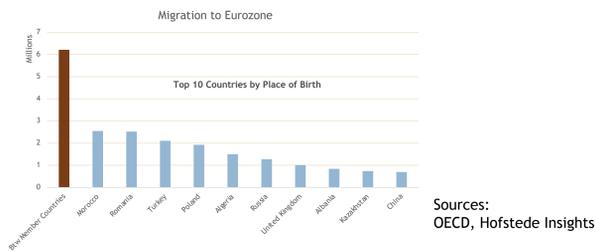
Deep-Rooted Cultures and Gradual Diversification: How to Shape Housing, Credits and Consumption

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National Cultures Related to Consumption, Borrowing and Homeownership Decisions

- ❖ **Uncertainty avoidance (UA)**
 - ❖ Rigidity of codes of belief and behavior, and tolerance of unorthodox behavior and ideas
 - ❖ Determine incentives for home equity and leverage
- ❖ **Indulgence (IND)**
 - ❖ Societies that allow relatively free gratification of basic and natural human drives related to enjoying life and having fun
 - ❖ Reflect individual consumption patterns and saving behavior

Cultural Diversification in Eurozone



Motivation

- ❖ Foremost evidence on cultural determinants of housing-credit-consumption dynamics
- ❖ Why Eurozone? Common monetary policy across member countries eliminates significant monetary policy impacts on the dynamics
- ❖ Measure cultural diversification and its effects on the dynamics
- ❖ Insight into immigration policies to foster the sustainability of economic recovery

Empirical Strategy

- ❖ Quantify cultural diversification by weighted Euclidean distance
 - ❖ CD: cultural distance of each dimension i in a country j , $w_{j,k}$: population percentage of an ethnicity k in a country j , $C_{i,k}$: score of cultural dimension i for an ethnicity k , $C_{i,j}$: corresponding cultural score of a target country j , V_i : variance of the score of cultural dimension i

$$CD_{i,j} = \sum_{k=1}^K w_{j,k} * \sqrt{\frac{(C_{i,k} - C_{i,j})^2}{V_i}}$$

- ❖ Models: PVAR or PVECM
- ❖ Variables (1999Q1-2019Q4):
 - ❖ Endogenous: real house prices ($lrhpi_{i,t}$), housing construction measured by the building permits ($lhbp_{i,t}$), ratios of private credit to GDP ($lpcgdp_{i,t}$), real long-term interest rates ($rlrint_{i,t}$), real personal consumption ($lrpc_{i,t}$)
 - ❖ Control: wages, unemployment, inward FDI
- ❖ Two panels in each analysis (above or below avg of cultural factors/distance)

Main Results

How Cultural Dimensions Shape Housing-Credit-Consumption Dynamics

- ❖ **Uncertainty avoidance**
 - ❖ Contrary relationships between housing construction and private credits (low vs high UA)
 - ❖ More prudent credit policies to property developers in higher UA countries
 - ❖ Long-term wealth effect evidenced in low UA panel only but higher UA residents more likely rely on own savings for home purchase
- ❖ **Indulgence**
 - ❖ Low IND: confirm housing collateral hypothesis, higher homeownership and insignificant wealth effect
 - ❖ Positive relationships between house price growth and credits

Cultural Diversification Effects

- ❖ **Uncertainty avoidance**
 - ❖ Less diversified: an increase in lagged house price reduces credits
 - ❖ More diversified: exhibit short-term disequilibrium, a short-term rise in housing construction leads to inconsiderable increase in credits
 - ❖ Short-term wealth effect is evidenced in more diversified panel only

Less Diversified	$lrhpi_{i,t-m}$	$lpcgdp_{i,t}$	$rlrint_{i,t}$	$\Delta lrpc_{i,t}$	$\Delta lhbp_{i,t}$	More Diversified	$\Delta lrhpi_{i,t-m}$	$lpcgdp_{i,t}$	$\Delta rlrint_{i,t}$	$\Delta lrpc_{i,t}$	$\Delta lhbp_{i,t}$
$\sum_{m=1}^3 lrhpi_{i,t-m}$	0.99***	-0.004*	-0.18	-0.003	-0.07**	$\sum_{m=1}^3 \Delta lrhpi_{i,t-m}$	0.72**	0.03	5.79*	0.18***	2.66***
$\sum_{m=1}^3 lpcgdp_{i,t-m}$	-0.001	0.99***	-0.09	0.01	-0.02	$\sum_{m=1}^3 lpcgdp_{i,t-m}$	-0.003	0.99***	-0.05	0.004	0.02
$\sum_{m=1}^3 rlrint_{i,t-m}$	-0.001**	-0.0002	0.90***	-0.001	-0.01***	$\sum_{m=1}^3 \Delta rlrint_{i,t-m}$	-0.002	0.01	-0.15	-0.01**	-0.02
$\sum_{m=1}^3 \Delta lrpc_{i,t-m}$	0.26***	0.05	-14.61***	-2.04***	0.17	$\sum_{m=1}^3 \Delta lrpc_{i,t-m}$	0.10	0.04	-16.12***	-2.24***	0.65
$\sum_{m=1}^3 \Delta lhbp_{i,t-m}$	0.02**	-0.01	0.29	0.003	-0.34***	$\sum_{m=1}^3 lhbp_{i,t-m}$	-0.0001	0.01***	0.10*	0.003**	0.97***

- ❖ **Indulgence**
 - ❖ Less diversified: no interactions between housing markets and credits
 - ❖ More diversified: short-term rise in lagged credits restrict house price growth
 - ❖ Short term interactions between house prices and consumption (incl. wealth effect) in more diversified panel only

Less Diversified	$lrhpi_{i,t}$	$lpcgdp_{i,t}$	$rlrint_{i,t}$	$\Delta lrpc_{i,t}$	$\Delta lhbp_{i,t}$	More Diversified	$\Delta lrhpi_{i,t}$	$lpcgdp_{i,t}$	$\Delta rlrint_{i,t}$	$\Delta lrpc_{i,t}$	$\Delta lhbp_{i,t}$
$\sum_{m=1}^3 lrhpi_{i,t-m}$	0.99***	-0.002	-0.03	-0.002	-0.08***	$\sum_{m=1}^3 \Delta lrhpi_{i,t-m}$	0.46***	0.07	4.81*	0.26***	1.71***
$\sum_{m=1}^3 lpcgdp_{i,t-m}$	0.001	1.00***	-0.11	0.004	-0.002	$\sum_{m=1}^3 lpcgdp_{i,t-m}$	-0.01***	0.99***	0.06	0.01***	0.01
$\sum_{m=1}^3 rlrint_{i,t-m}$	-0.001**	-0.0001	0.91***	-0.001	-0.01***	$\sum_{m=1}^3 \Delta rlrint_{i,t-m}$	-0.01**	0.01**	-0.05	-0.01**	-0.03*
$\sum_{m=1}^3 \Delta lrpc_{i,t-m}$	0.20***	0.09**	-13.81***	-1.88***	-0.04	$\sum_{m=1}^3 \Delta lrpc_{i,t-m}$	0.20**	-0.03	-15.20***	-2.35***	0.87*
$\sum_{m=1}^3 \Delta lhbp_{i,t-m}$	0.01	-0.001	0.28	-0.01	-0.34***	$\sum_{m=1}^3 \Delta lhbp_{i,t-m}$	0.03	-0.08***	-0.26	0.004**	-0.03

- ✓ **Cultural diversification**
 - ✓ Raise homeownership incentives
 - ✓ Foster financing channels other than traditional bank borrowings
 - ✓ Lead to consumption-driven economy

Policy Implication

- ✓ Immigration policies may consider migrants of culturally diverse backgrounds when unified monetary policies hinder flexible adjustments for a member country

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