

200 YEARS
since 1816



OESTERREICHISCHE NATIONALBANK
EUROSYSTEM

Access to banking in the Western Balkans - Evidence from the OeNB Euro Survey

Antje Hildebrandt (joint work with Elisabeth Beckmann)
Oesterreichische Nationalbank

7th Annual Research Conference of the National Bank of the Republic of Macedonia
April 12-13, 2018

The views expressed are the authors and do not necessarily reflect those of the Oesterreichische Nationalbank

Motivation

Generally acknowledged that financial intermediation and markets are important for economic growth (Levine, 2004)

Western Balkan countries show increased used of financial services but financial deepening still at comparably low level (IMF REO, 2017)

Financial inclusion means that individuals and businesses have access to useful and affordable financial products and services that meet their needs – transactions, payments, credit and insurance – delivered in a responsible and sustainable way (World Bank).

Why is it important for **households** to have access to a bank account?

- store money, send and receive payments
- align income and expenditures of households
- safeguard against income and expenditure shocks
- for long-term purposes (e.g. for education)
- more likely that other financial services will be used

Contribution of the presentation

1. Present survey evidence on households' access to banking services
2. Differentiate between direct and indirect access
3. Account for the local banking market structure

Main question: Which households have access to bank accounts?

- Regular survey of individuals in 6 EU Member States, 4 (potential) candidate countries
- Conducted by OeNB since 2007
- Representative sample of 1000 individuals in each country & wave, face-to-face interviews

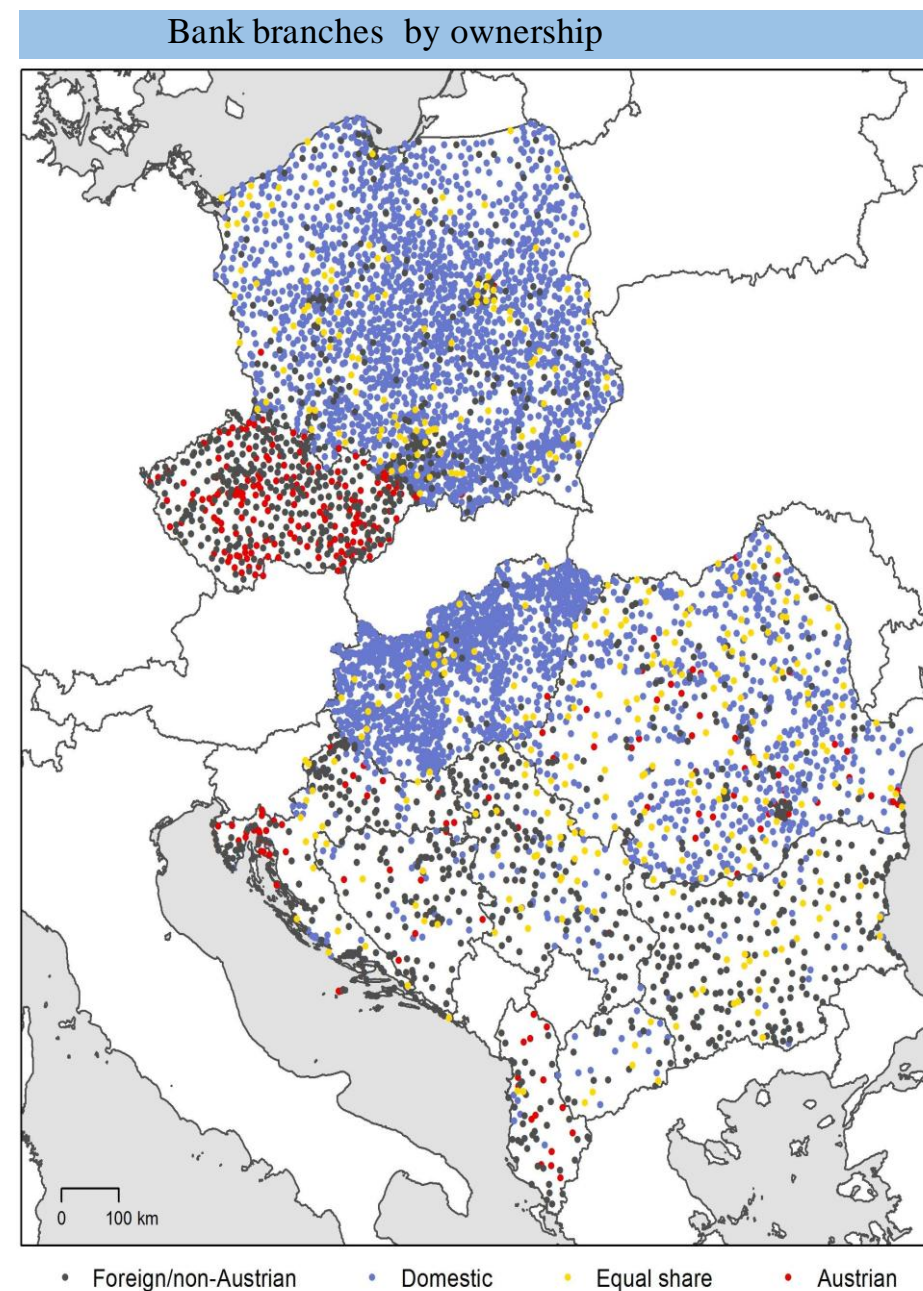
We focus on data from 2015 and 2016

- Household level
- Bank level
- Geographic information allows combination with:
 - average night light as a proxy for local economic activity
 - bank branch data

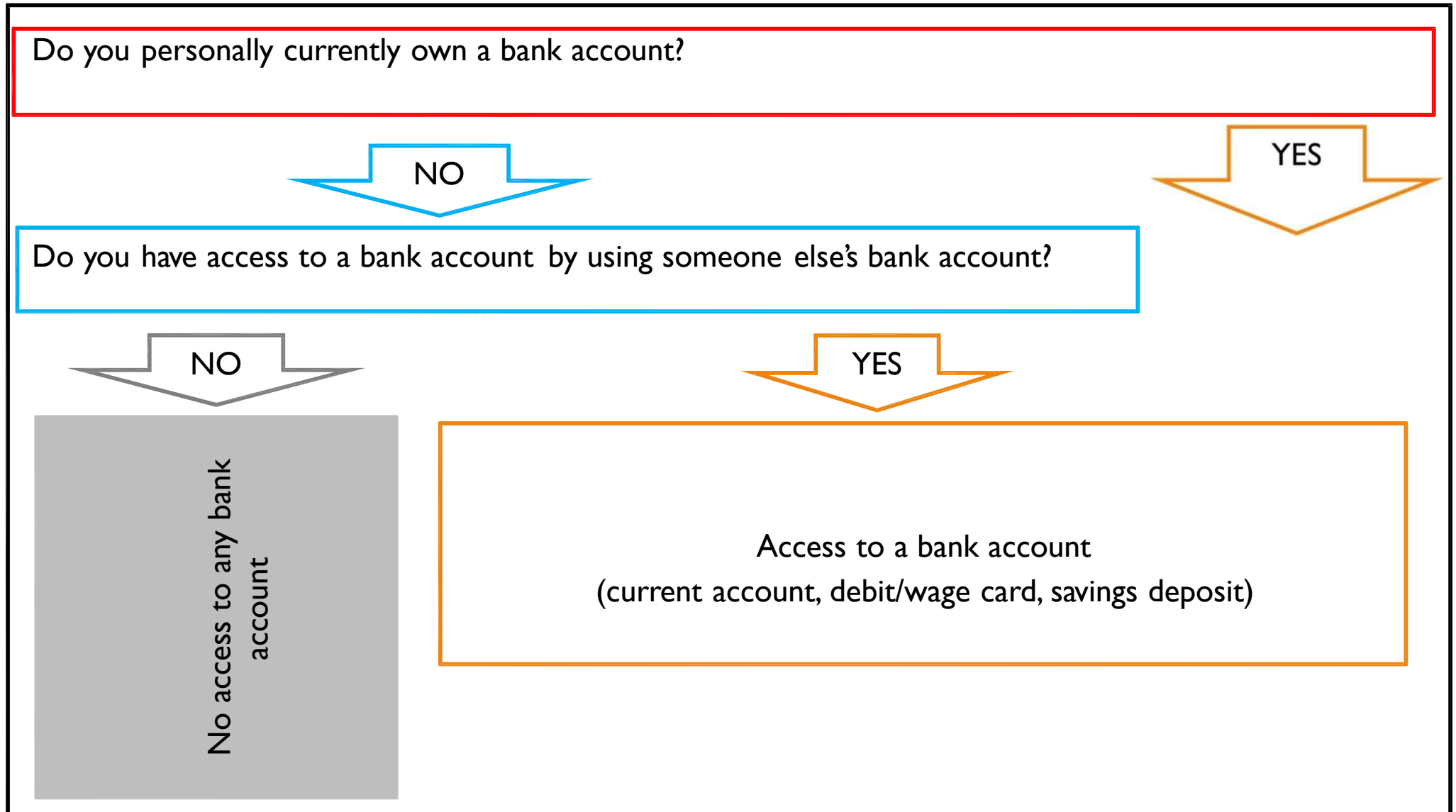
The geography of banking in CESEE

- Data received from central banks for Albania, Hungary and Serbia, hand-collected for the seven other countries, geocoded at the street level
- Merge survey data with variables measuring bank proximity, ownership & concentration

Source: Elisabeth Beckmann, Sarah Reiter and Helmut Stix. 2018. A geographic perspective on banking in Central, Eastern and Southeastern Europe. Focus on European Economic Integration. Oesterreichische Nationalbank. Q1-18, 26-47.



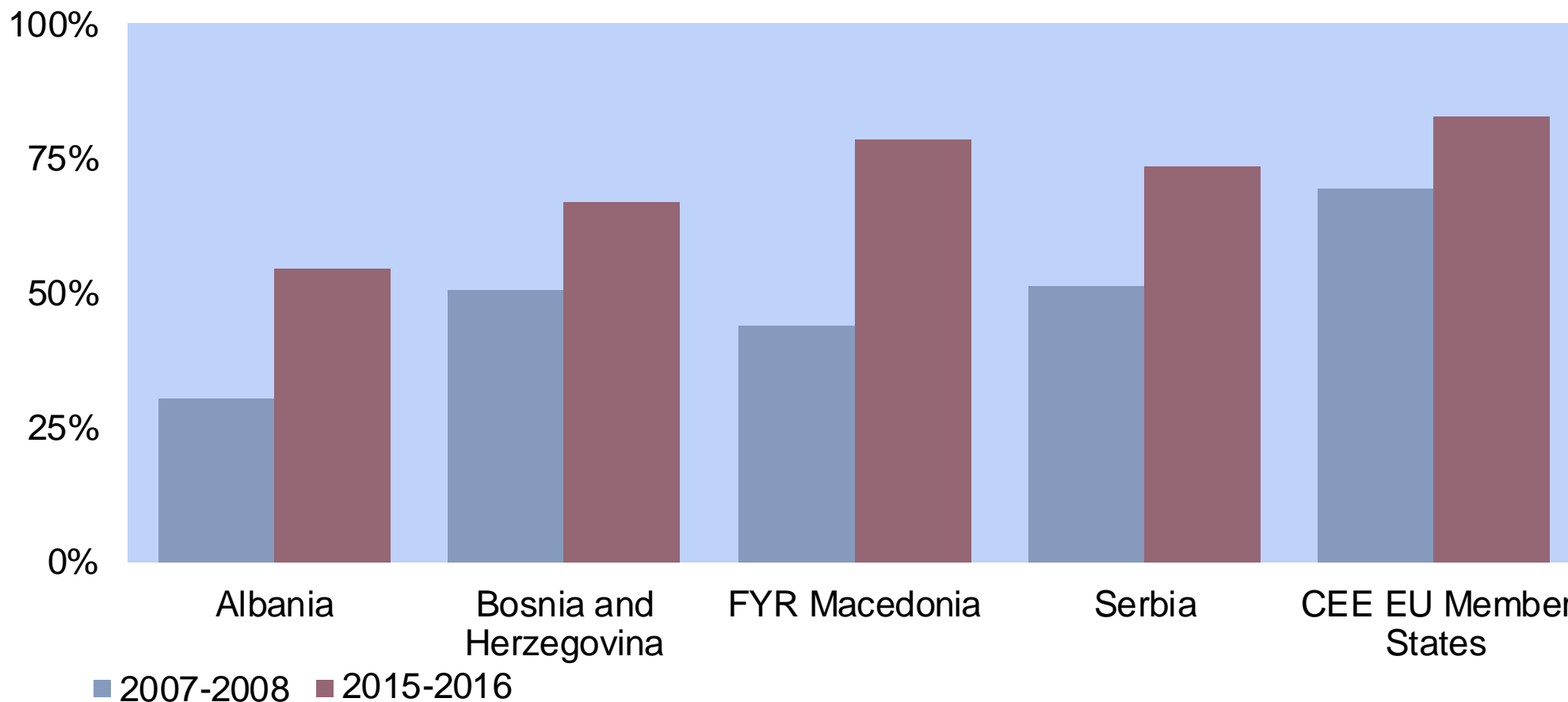
Definition: Access to bank account



Access to bank accounts has increased over time

Bank account ownership over time

% of respondents

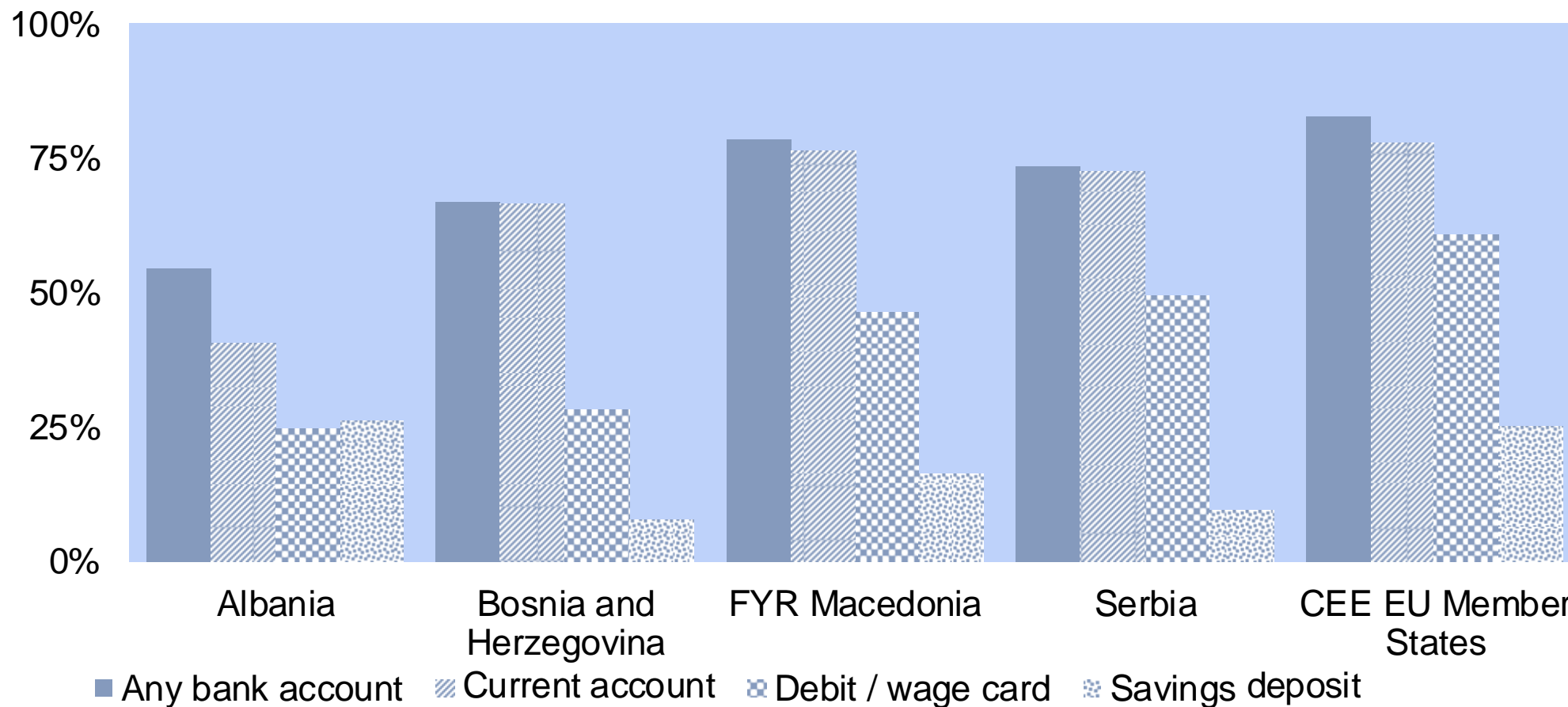


Source: OeNB Euro Survey

Transaction accounts are most frequent

Type of bank accounts

% of respondents

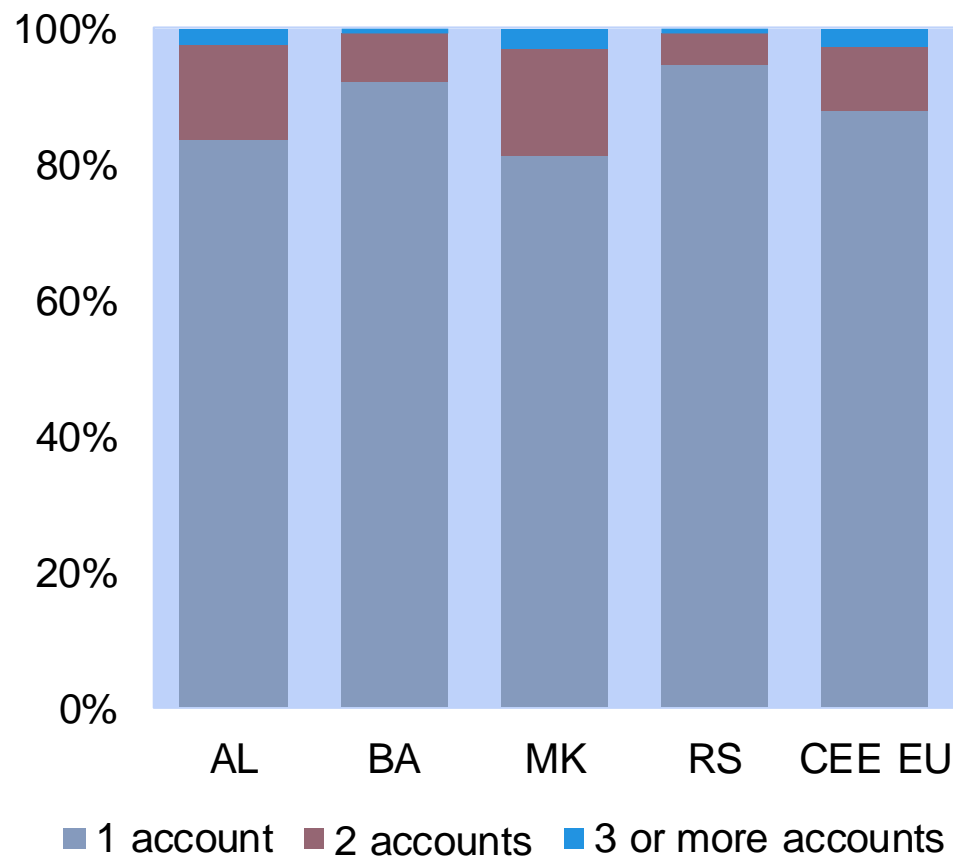


Source: OeNB Euro Survey

Diversification of bank relations is low and mainly due to savings

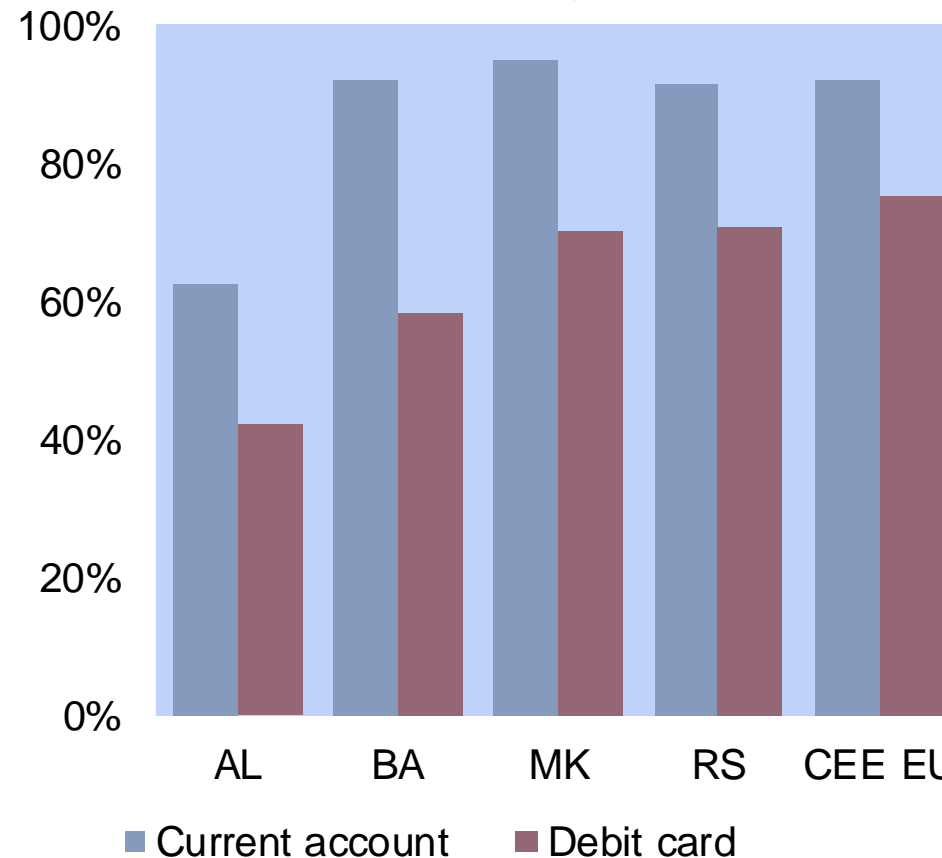
Number of bank accounts

% of respondents with at least one account



Coincidence of transaction and saving accounts

% of respondents with a saving deposit

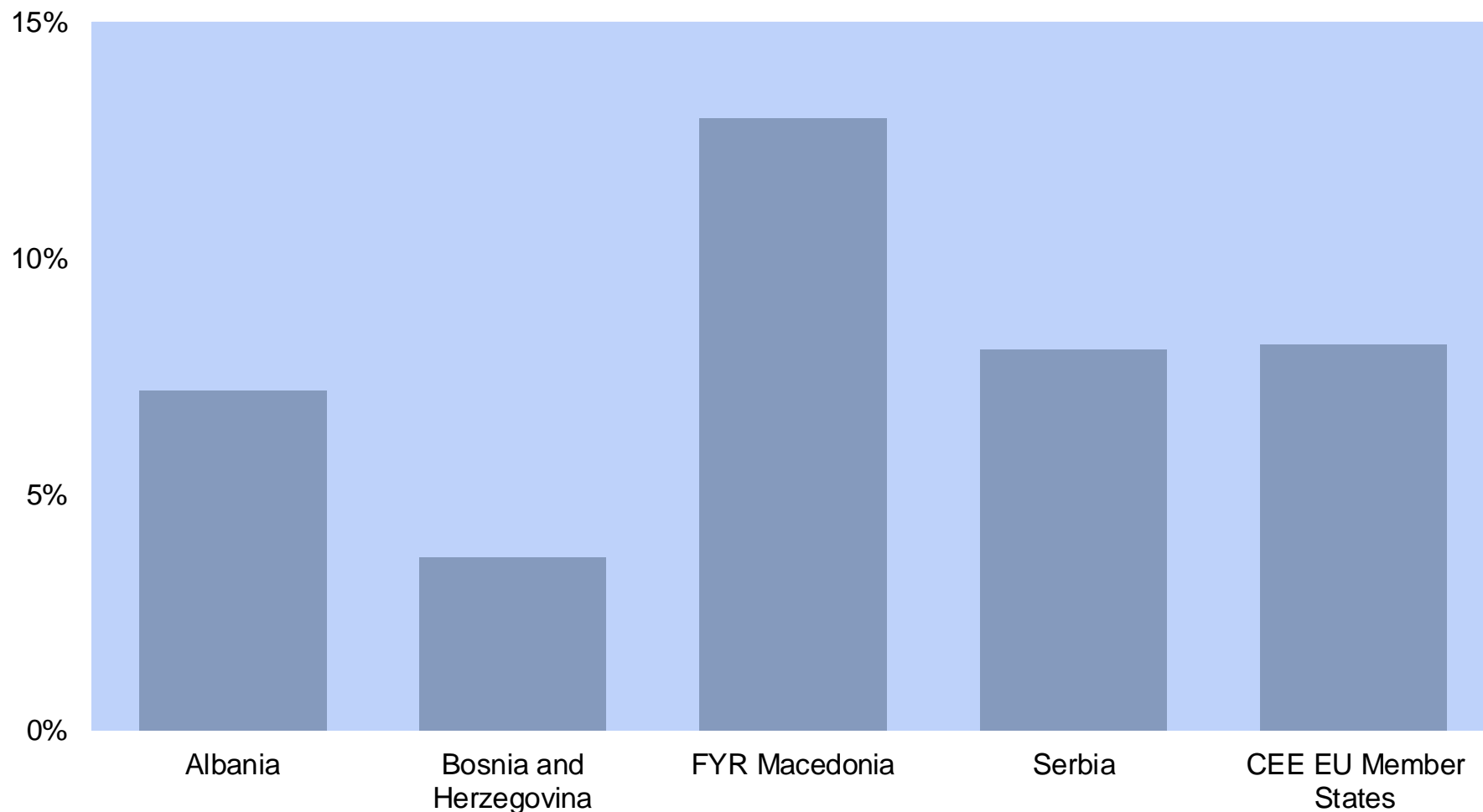


Source: OeNB Euro Survey

Joint usage of or access to someone else's current account

Access to current account

% of respondents without personal current account

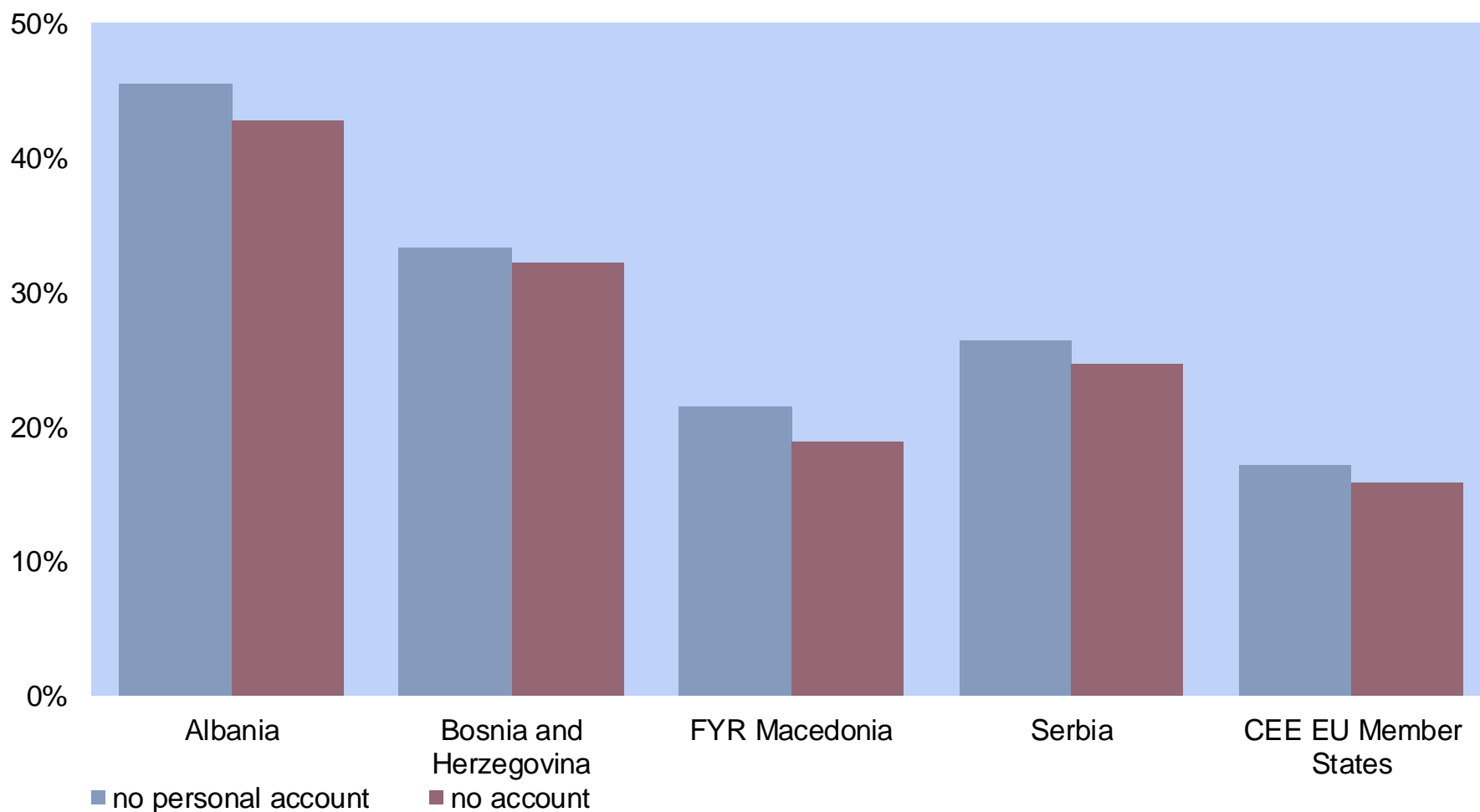


Source: OeNB Euro Survey

...only marginally reduces exclusion

Lack of access to bank accounts

% of respondents



Source: OeNB Euro Survey

Access to banking and education

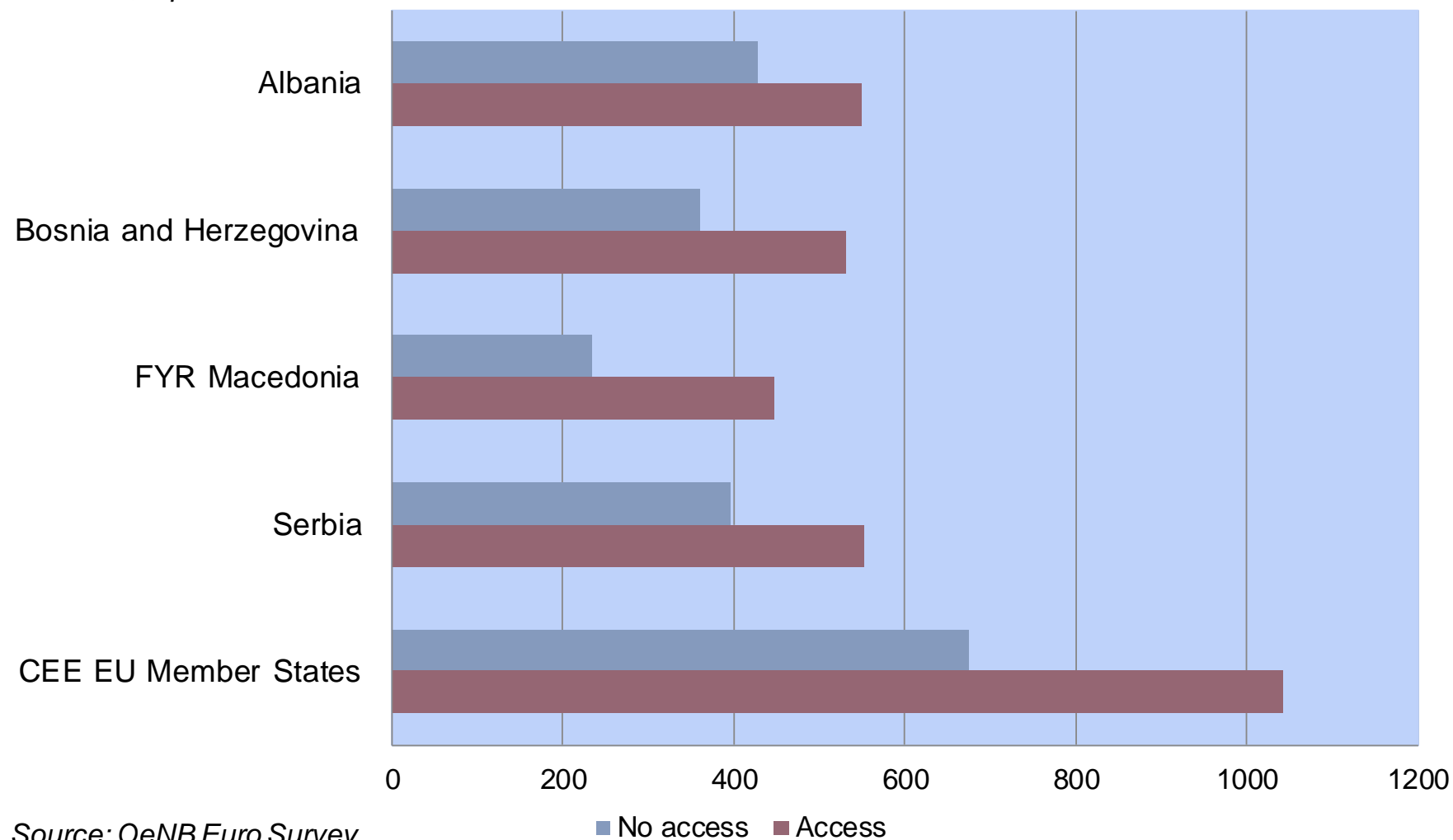
Education			
	No access	Access	H0: (a)=(b)
	(a)	(b)	<i>p</i> - value
Tertiary (%)			
Albania	6.47	33.36	0.00
Bosnia and Herzegovina	2.16	14.75	0.00
FYR Macedonia	3.53	15.88	0.00
Serbia	8.02	19.91	0.00
CEE EU Member States	4.34	17.76	0.00
Secondary (%)			
Albania	47.84	56.65	0.00
Bosnia and Herzegovina	55.38	70.15	0.00
FYR Macedonia	80.00	76.03	0.00
Serbia	45.95	52.16	0.06
CEE EU Member States	53.82	69.20	0.00
Primary (%)			
Albania	45.68	9.99	0.00
Bosnia and Herzegovina	42.46	15.10	0.00
FYR Macedonia	16.48	8.09	0.00
Serbia	46.02	27.93	0.00
CEE EU Member States	41.84	13.03	0.00

Source: OeNB Euro Survey.

Access to banking and income

Household income

PPP euro, equivalence scale



Source: OeNB Euro Survey

Access to banking and employment situation

Labour market status

	No access (a)	Access (b)	H0: (a)=(b) <i>p</i> - value
Employed (%)			
Albania	38.38	74.01	0.00
Bosnia and Herzegovina	7.69	40.20	0.00
FYR Macedonia	10.77	46.14	0.00
Serbia	15.53	53.05	0.00
CEE EU Member States	29.32	72.25	0.00
Self-Employed (%)			
Albania	20.71	21.26	0.00
Bosnia and Herzegovina	1.04	2.96	0.00
FYR Macedonia	4.67	4.96	0.00
Serbia	0.51	3.16	0.00
CEE EU Member States	2.17	8.11	0.00
Unemployed (%)			
Albania	27.72	14.09	0.00
Bosnia and Herzegovina	64.78	30.68	0.00
FYR Macedonia	78.14	30.17	0.00
Serbia	54.49	15.47	0.00
CEE EU Member States	15.12	6.97	0.00
Retired (%)			
Albania	22.65	7.23	0.00
Bosnia and Herzegovina	22.17	23.90	0.00
FYR Macedonia	5.60	18.99	0.00
Serbia	15.78	28.82	0.00
CEE EU Member States	51.27	18.04	0.00

Source: OeNB Euro Survey.

Regional disparities in bank branch coverage

Number of adults (population 14+) per bank branch				
	Country average	NUTS 3 minimum	NUTS 3 maximum	Difference between NUTS3 minimum and maximum
Albania	5077	3200	15376	12177
Bosnia and Herzgovina	4052	-	-	-
FYR Macedonia	4149	3503	10258	6755
Serbia	2930	2667	6835	4168
Bulgaria	2497	2129	4535	2406
Croatia	3145	2505	4734	2229
Czech Republic	3197	2033	6935	4901
Hungary	3111	2163	6263	4100
Poland	3104	2473	5478	3005
Romania	3236	2213	7343	5130

Number of bank branches per 1.000qm ²				
	Country average	NUTS 3 minimum	NUTS 3 maximum	Difference between NUTS3 minimum and maximum
Albania	17	3	108	105
Bosnia and Herzgovina	16	-	-	-
FYR Macedonia	16	8	97	88
Serbia	23	8	194	186
Bulgaria	23	10	478	468
Croatia	21	19	1002	983
Czech Republic	36	3	289	285
Hungary	30	10	726	715
Poland	34	11	1277	1265
Romania	23	6	3550	3544

Source: Elisabeth Beckmann, Sarah Reiter and Helmut Stix. 2018. A geographic perspective on banking in Central, Eastern and Southeastern Europe. Focus on European Economic Integration. Oesterreichische Nationalbank. QI-18, 26-47.

Households' access to banks

Households that have a bank within %	Households that have a bank within		
	1 km	2 km	5 km
Albania	54	65	77
Bosnia and Herzgovina	49	56	73
FYR Macedonia	54	62	76
Serbia	67	76	86
Bulgaria	69	75	82
Croatia	52	62	80
Czech Republic	58	66	81
Hungary	74	86	92
Poland	68	79	93
Romania	60	64	75

Source: Elisabeth Beckmann, Sarah Reiter and Helmut Stix. 2018. A geographic perspective on banking in Central, Eastern and Southeastern Europe. Focus on European Economic Integration. Oesterreichische Nationalbank. Q1-18, 26-47.

Empirical strategy

Following Allen et al. (2016) we estimate the probability that an individual does **not** have access to any bank account

$$P(\text{no access}=1) = \Phi_{NA}(X_{NA}\beta_1 + B_{NA}\beta_2 + u_{NA})$$

Where X household level controls
B bank level controls

The models include information on:

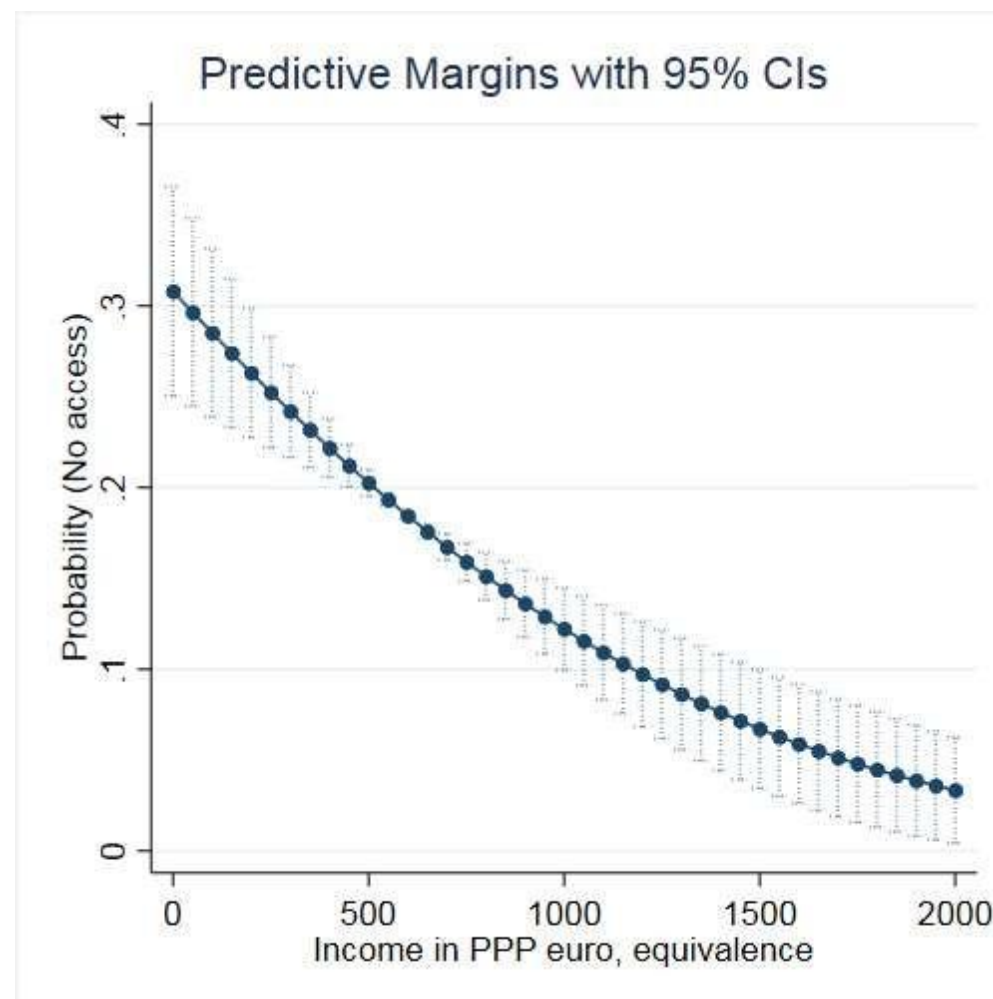
- ✓ **Socio-demographic:** age, gender, household size, children, marital status
- ✓ **Socio-economic:** education, labor market status, net household income, indicators of wealth
- ✓ **Individual expectations and beliefs:** risk aversion, memories of previous crises during transition, trust in institutions
- ✓ **Financial literacy:** level of knowledge **Banks:**
- ✓ Proximity of bank & concentration **Controls**
- ✓ **at the primary sampling unit level:** nightlight data as a proxy for local economic activity
- ✓ **Country#time fixed effects**

Results: Socio-demographic characteristics of households

Dependent variable	No bank account	
	all	Western Balkans
log(age)	0.054** (0.024)	-0.066* (0.036)
female	0.006 (0.007)	0.027*** (0.010)
married	-0.025** (0.011)	0.01 (0.019)
divorced	-0.042*** (0.014)	-0.067*** (0.025)
children	-0.002 (0.011)	-0.002 (0.020)
<i>controlled for socio-economic characteristics</i>		
Log-L	-6688.5	-3155.5
N	17662	7162
P(DepVar=1)	0.2	0.25

Dependent variable Sample	No bank account	
	all	Western Balkans
self-employed	0.048* (0.026)	0.09* (0.046)
unemployed	0.225*** (0.020)	0.276*** (0.024)
retired	0.025** (0.010)	0.016 (0.026)
tertiary education	-0.171*** (0.010)	-0.206*** (0.015)
secondary education	-0.082*** (0.012)	-0.110*** (0.020)
income: high	-0.086*** (0.016)	-0.108*** (0.026)
income: medium	-0.055*** (0.013)	-0.049* (0.026)
income: refused	-0.026 (0.018)	-0.034 (0.038)
own house	0.011 (0.011)	0.021 (0.019)
building conditions poor	0.043*** (0.010)	0.033*** (0.009)
controlled for socio-demographic characteristics		
Log-L	-6688.5	-3155.5
N	17662	7162
P(DepVar=1)	0.2	0.25

Results: Socio-economic characteristics of households



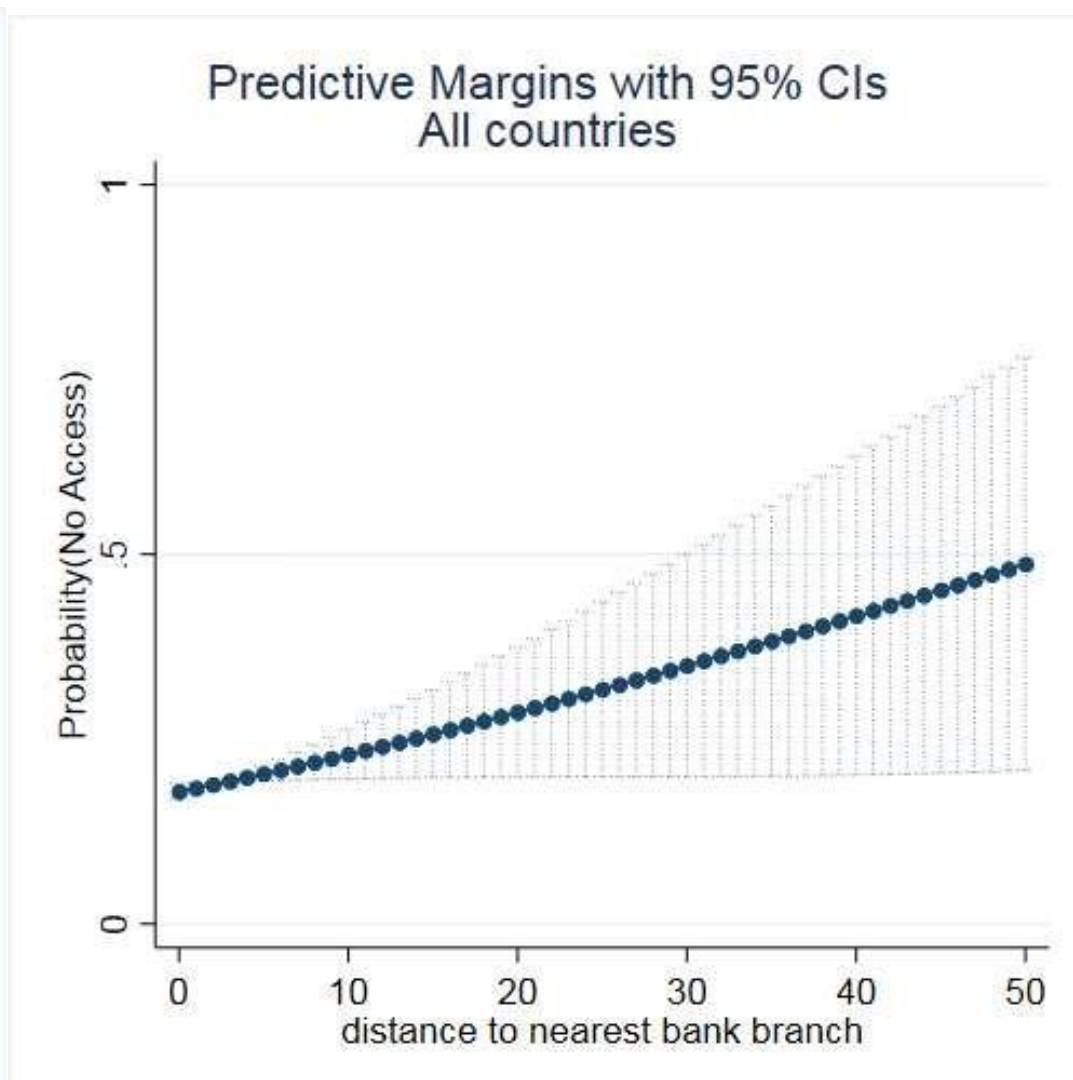
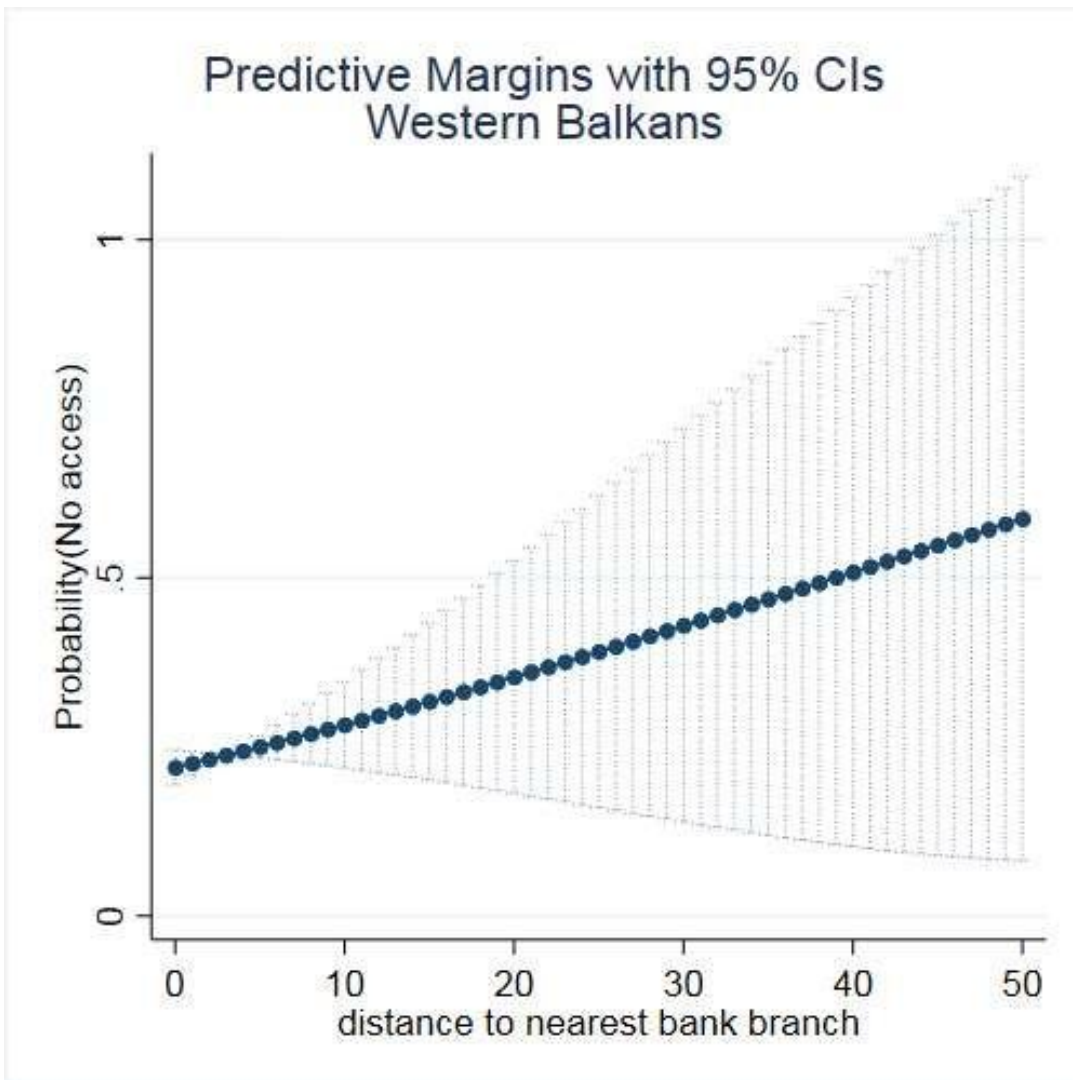
Results: Individual expectations/experiences and beliefs

Dependent variable Sample	No bank account	
	all	Western Balkans
risk aversion	-0.044*** (0.009)	-0.036** (0.017)
memory of inflation	-0.029*** (0.012)	-0.053*** (0.020)
trust in banks	-0.029*** (0.014)	-0.027 (0.026)
financial loss during transition	-0.052*** (0.010)	-0.068*** (0.012)
trust in central banks	-0.023* (0.012)	0 (0.025)
trust in government	-0.001 (0.009)	-0.016 (0.016)
<i>controlled for socio-economic and socio-demographic characteristics & for bank distance</i>		
Log-L	-5522.4	-2604.2
N	15318	6166
P(DepVar=1)	0.19	0.24

Results: Bank distance

Dependent variable Sample	No bank account	
	all	Western Balkans
nightlight	-0.004 (0.008)	-0.003 (0.015)
bank distance	0.006* (0.003)	0.011* (0.006)
Herfindahl index	0.019 (0.019)	0.006 (0.017)
closest bank domestic	0.009 (0.009)	0.006 (0.013)
<i>controlled for socio-economic and socio-demographic characteristics & for individual expectations and beliefs</i>		
Log-L	-5522.4	-2604.2
N	15318	6166
P(DepVar=1)	0.19	0.24

Bank distance in all CESEE countries vs in the Western Balkans



Results: Financial literacy

Dependent variable	No bank account	
Sample	all	Western Balkans
financial literacy=1	-0.031** (0.012)	-0.019 (0.017)
financial literacy=2	-0.052*** (0.016)	-0.037 (0.030)
financial literacy=3	-0.070*** (0.017)	-0.063** (0.027)
financial literacy=4	-0.072*** (0.019)	-0.095** (0.039)
<i>controlled for socio-economic and socio-demographic characteristics & individual expectations and beliefs & for bank distance</i>		
Log-L	-5189	-2417.8
N	14692	5819
P(DepVar=1)	0.19	0.24

Summary and further steps

- **Household characteristics** are important determinants for having a bank account
 - Poor, less well educated and unemployed people are more likely to be excluded
- **Past experience** (with economic and/or financial crisis) matters for having a bank account
- **Financial literacy** is correlated with financial inclusion
- **Bank distance** is directly linked to access to a bank account

Main policy recommendations:

- target groups excluded from access to bank accounts (poorer, less well educated, unemployed people)
- improve trust and reliability of institutions
- improve (financial) education

Further steps:

- type of bank (e.g. microfinance banks)
- closer look at difference between the Western Balkan countries and CESEE EU countries
- influence of new technologies
- frequency of account use
- address reverse causality with regard to financial literacy

200 YEARS
since 1816



OESTERREICHISCHE NATIONALBANK
EUROSYSTEM

Thank you!

OeNB-CESEE-Portal: <http://CESEE.oenb.at>

Information on the OeNB Euro Survey is provided at:
<https://www.oenb.at/en/Monetary-Policy/Surveys/OeNB-Euro-Survey.html>



Access to banking and socio-demographic characteristics

Socio-demographic characteristics

	No access (a)	Access (b)	H0: (a)=(b) <i>p</i> - value
Age (years)			
Albania	44	41	0.01
Bosnia and Herzegovina	49	45	0.00
FYR Macedonia	41	45	0.00
Serbia	44	49	0.00
CEE EU Member States	56	46	0.00
Female (%)			
Albania	54	49	0.03
Bosnia and Herzegovina	63	46	0.00
FYR Macedonia	62	48	0.00
Serbia	53	51	0.00
CEE EU Member States	55	52	0.01
Married (%)			
Albania	65	69	0.00
Bosnia and Herzegovina	61	65	0.87
FYR Macedonia	73	66	0.00
Serbia	51	69	0.00
CEE EU Member States	44	66	0.00
Children (%)			
Albania	46	53	0.96
Bosnia and Herzegovina	29	38	0.00
FYR Macedonia	54	40	0.00
Serbia	25	34	0.00
CEE EU Member States	19	34	0.00

Source: OeNB Euro Survey.

Regional disparities in access to bank accounts

