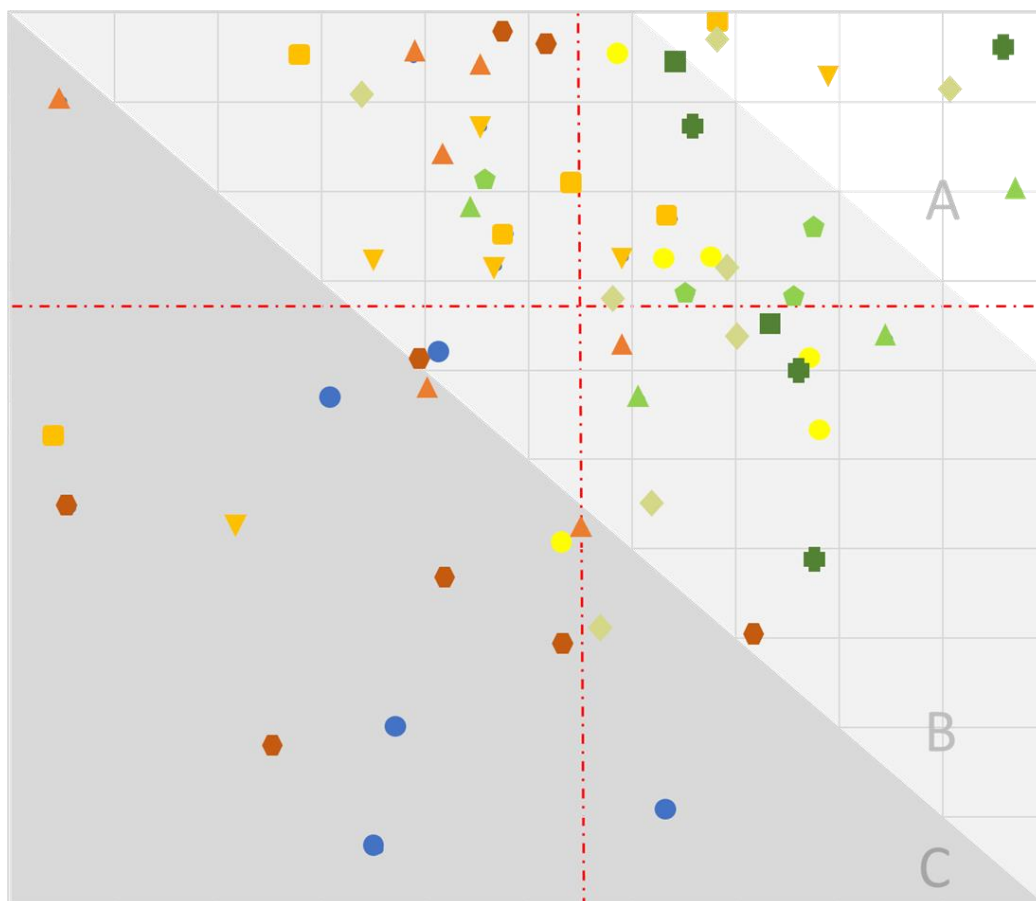# D - Rating

**Rating Agency of
Digital Performance**

Cyber security readiness of retail banks in Europe:
a heterogeneous landscape

May 2020

Evaluation of the cyber security readiness of 60 retail banks in 15 countries, in the context of the Covid-19 crisis. The analysis covers cyber security on both web and app channels.

1. Foreword

As it was explained by Fabio Panetta, Member of the Executive Board of the ECB, at the fourth meeting of the Euro Cyber Resilience Board for pan-European Financial Infrastructures on February 27th, 2020, "*Cyber risk is a danger which has the potential to trigger a systemic crisis. In financial terms, while the total costs of cyber incidents are hard to establish, industry estimates range from USD 45 billion to USD 654 billion for the global economy in 2018. According to some estimates, the average cost of cyber incidents had increased by 72% in the last five years and businesses will fall victim to a ransomware attack every 11 seconds by 2021.*"

In this context, cyber risk is particularly critical for banking and threats are potentially even higher during crisis period. Cyber criminals have not waited for Covid to develop their arsenal of malicious software and devices, but the global crisis situation generated by the Covid-19 pandemic raises legitimate cyber security concerns. As with every exceptional event, it must be borne in mind that cyber criminals seek to take advantage of the haste and reduced vigilance of those directly or indirectly concerned to abuse them, which will be amplified by the strong increase in digital use imposed by the lockdown measures.

> For example, EventBot, a new Android malware discovered at the end of April-2020: this malware is designed to plunder bank accounts of its victims. "*It is a mobile banking Trojan capable of abusing Android's accessibility features to steal user data*" according to Cybereason researchers who detected the malware. This malware is quite optimised since it can easily thwart two-factor authentication via SMS.

In the context of its digital performance rating, D-Rating investigated the cyber security readiness of retail banks in Europe during the Covid period. 60 key retail banking brands - including major European ones, neo banks and other banks considered as digital champions – are covered by D-Rating's analysis. In each country, the number of banks retained among the 60 key brands is not necessarily the same and can be limited. Thus, indicators per country introduced in this article do not aim to provide statistics but to highlight potential trends per country.

#	Brand	Loc.	N°	Brand	Loc.	N°	Brand	Loc.
1	Erste Bank	AT	21	BNP Paribas	FR	41	BBVA	SP
2	Raiffeisen Bank	AT	22	Caisse d'Epargne	FR	42	Banco Sabadell	SP
3	Aion	BE	23	Crédit Agricole	FR	43	Banco Santander	SP
4	Belfius	BE	24	Crédit Mutuel	FR	44	Bankia	SP
5	BNP Paribas Fortis	BE	25	Orange Bank	FR	45	Bankinter	SP
6	ING Belgium	BE	26	Société Générale	FR	46	CaixaBank	SP
7	KBC Bank	BE	27	Banco BPM	IT	47	ING Spain	SP
8	Keytrade Bank	BE	28	BPER Banca	IT	48	Handelsbanken	SW
9	Credit Suisse	CH	29	Che Banca !	IT	49	SEB	SW
10	Raiffeisen Group	CH	30	Intesa SanPaolo	IT	50	Swedbank	SW
11	UBS	CH	31	UBI Banca	IT	51	AKBank	TK
12	Zürcher Kantonalbank	CH	32	Unicredit	IT	52	Garanti BBVA	TK
13	Commerzbank	DE	33	ABN Amro	NL	53	Barclays	UK
14	Deutsche Bank	DE	34	Bunq	NL	54	HSBC	UK
15	HVB	DE	35	ING	NL	55	Lloyds Bank	UK
16	N26	DE	36	Rabobank	NL	56	Marcus by GS	UK
17	Danske Bank	DK	37	DNB	NOR	57	Monzo	UK
18	Nordea	FI	38	mbank	PL	58	NatWest	UK
19	Arkea	FR	39	SBerbank	RU	59	Revolut	UK
20	Banque Populaire	FR	40	VTB	RU	60	Santander UK	UK

D-Rating's cyber security readiness rating includes the detection of vulnerabilities and qualification of threats related to Android banking apps (vulnerabilities connected to both static and run-time behaviour of the apps) and websites (DNS health, IP reputation, web application security, network security, leaked information, patching cadence…). It is a 100% outside-in analysis, mainly based on tooled diagnostics from **SecurityScorecard** (for website cyber security) and **Quixxi Security** (for android

app cyber security). No penetration test was performed. **This preliminary cyber security readiness study was conducted <u>from 1 march to 11 May 2020.</u>**

Based on the outcomes from this cyber security readiness study, four key learnings are provided in this article:

1. All European banks do not share the same level of security standards and there are high discrepancies among geographical areas.

2. Three groups of banks are differentiated; the top-6 banks in group-A are BPER Banca (IT), ING (NL), Keytrade Bank (B), Marcus by Goldman Sachs (UK), Raiffeisen (Swizerland), Santander UK (UK).

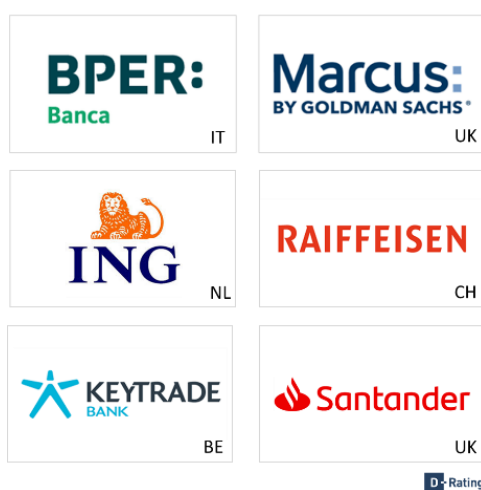3. A majority of large banks in France are below average European cyber security standards, both on web and on app.

4. On average, neobanks outperform established banks on web but not on app.

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1. All European banks do not share the same level of security standards and there are high discrepancies among geographical areas.

High security requirements are expected from retail banks that are natural targets of cyber-attacks and thus we could intuitively conceive that most banks would share vastly similar levels of protection for their digital channels.

The calculation of D-Rating's cyber security readiness scores shows a very different picture: important gaps are identified among the 60 evaluated brands and among geographical areas (cf. Fig1).
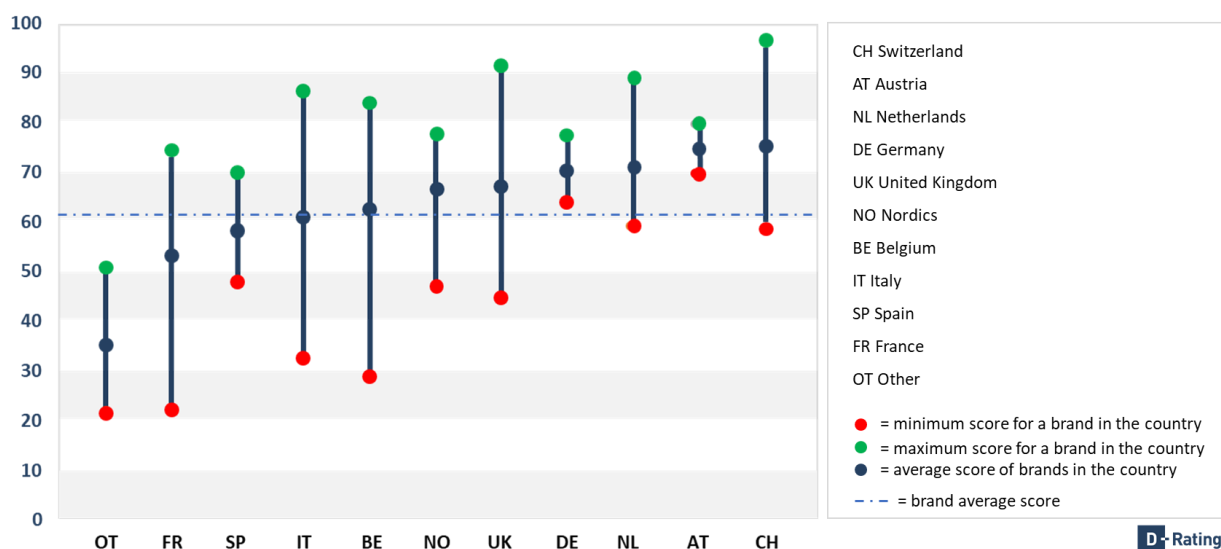
Figure 1 – Cyber security readiness scores per country

Three geographical areas can be distinguished according to the cyber security readiness scores (cf. Fig.2):

- **DACH area** (Germany, Austria & Switzerland) where we find the best average scores. Standard deviation for the 5 evaluated banks in Germany and in Austria is also the lowest one and in these 2 countries, all evaluated banks outperform the overall average score of the 60 evaluated brands. The overall best performer among the 60 evaluated brands is in Switzerland.
- **Northern Europe** (UK, Belgium, Netherlands & Nordics) where we find intermediate average scores. The Netherlands is at the same average level as Germany, with a larger standard deviation. Average scores are very close in the UK and the Nordics. Belgium gets the lowest average score in this geographical area, with a large standard deviation among brands.
- **Southern Europe** (Spain, France, Italy) where we find the lowest average scores. Like Belgium, France & Italy are characterized by a large standard deviation among brands. The best performer in Italy is close to top scores in the DACH area. The worst performer in France has one of the two lowest scores of the 60 evaluated banks.
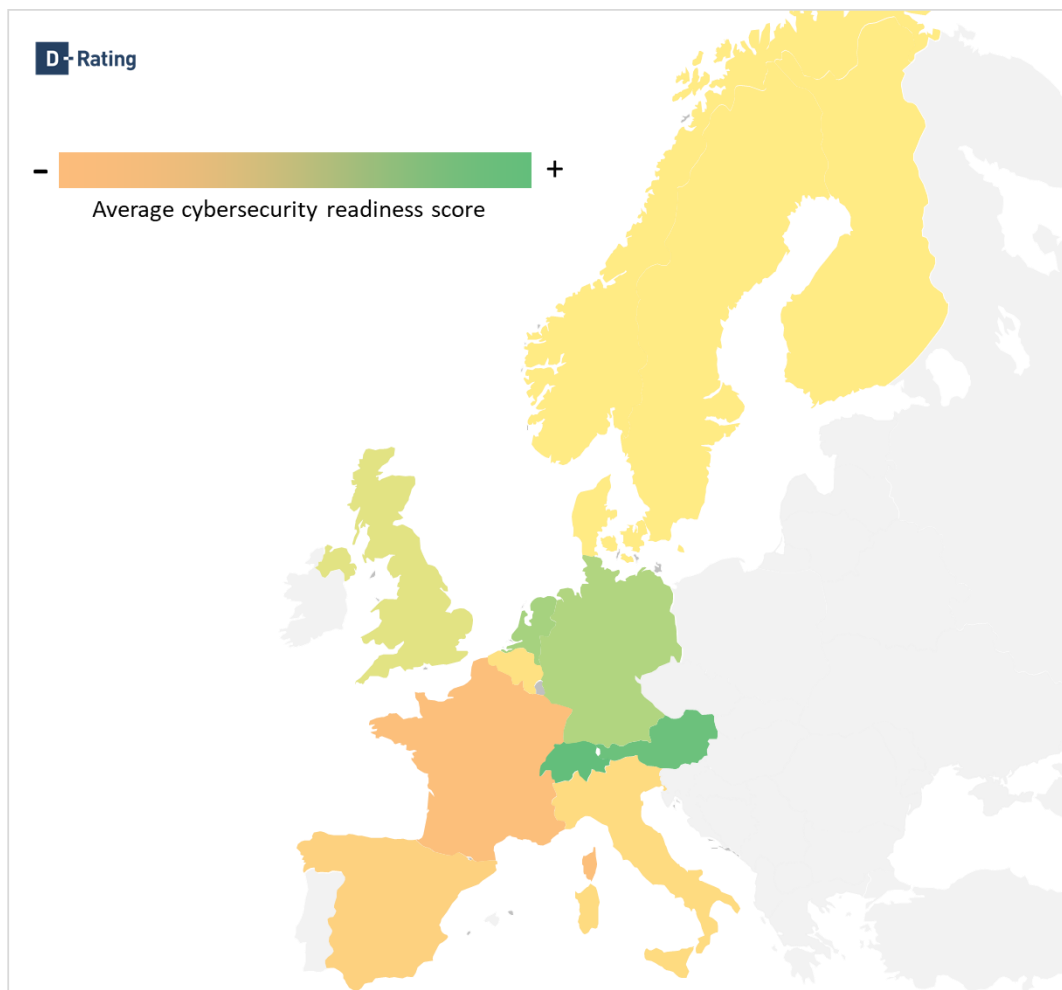
Figure 2 - Average cyber security readiness score per country

Finally, the 5 other banks in Poland, Turkey and Russia – renowned as digital innovative banks by their peers - appear to have not taken cyber security issues as seriously as their European counterparts as they are all significantly below the overall average score of the 60 evaluated brands.

2. Three groups of banks are differentiated; the top-6 banks in group-A are BPER Banca (IT), ING (NL), Keytrade Bank (B), Marcus by Goldman Sachs (UK), Raiffeisen (Swizerland), Santander UK (UK).

Three groups of banks are differentiated according to the distribution per range of cyber security readiness scores (cf. Fig.3):

- **Group-A** – that includes 10% of evaluated brands with a score above 80,
- **Group-B** – that includes 64% of evaluated brands with a score between 50 and 80,
- **Group-C** – that includes 26% of evaluated brands with a score below 50.
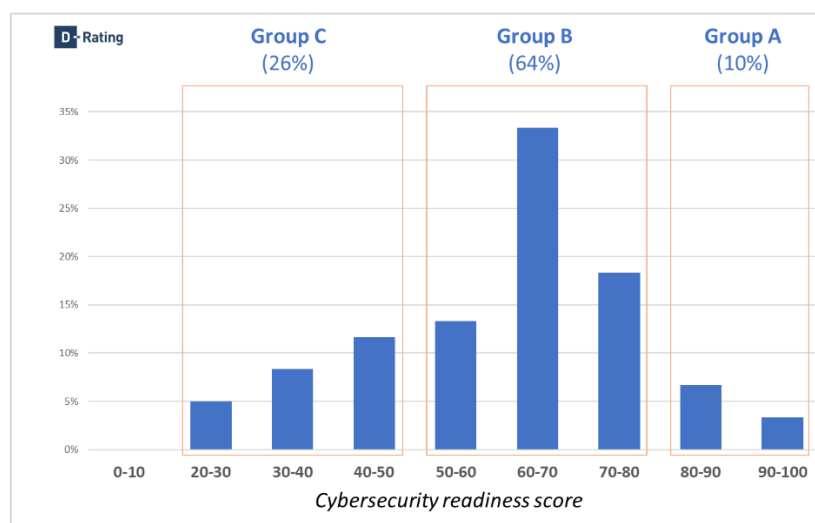
Figure 3 - Distribution of brands per range of cyber security readiness scores

The distribution of brands per cyber security readiness group and per country shows several patterns (cf. Fig.4):

- Group-A brands are located in Switzerland, the Netherlands, the UK, Italy and Belgium.
- Group-B brands can be found in all countries.
- Group-C brands are located in the UK, in Italy, in Belgium, in the Nordics, in Spain, in France and in other countries.
- In Austria and in Germany, 100% of evaluated banks are Group-B.
- The UK, Italy and Belgium have brands from all three groups. That means that in these 3 countries, we can find among the best and the worst performers in terms of cyber security readiness.
- In France, 50% of the 8 evaluated brands are Group-C.
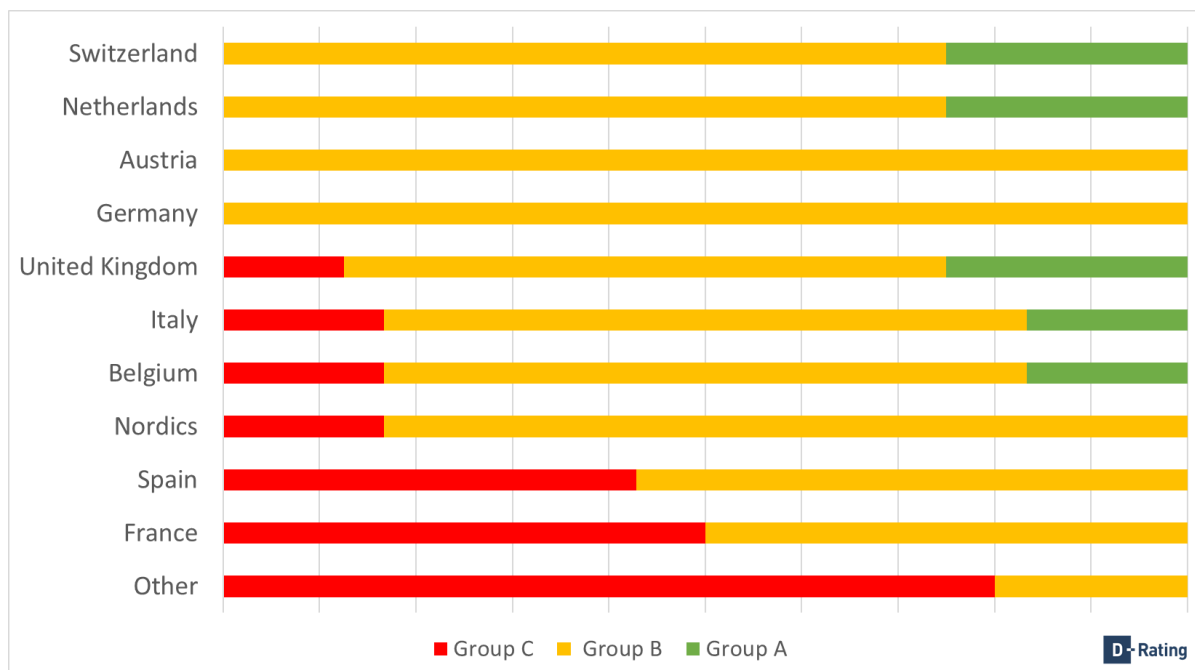
Figure 4 - Distribution of brands per cyber security readiness group and per country

Finally, the top-6 performers from Group-A are (in alphabetical order): BPER Banca (Italy), ING (Netherlands), Keytrade Bank (Belgium), Marcus by Goldman Sachs (UK), Raiffeisen (Switzerland) and Santander (UK).

Figure 5 – Cyber security readiness top performers

3. A majority of large banks in France are below average European cyber security standards, both on web and on app.

By going a step further in the analysis, cyber security readiness can be evaluated with a separate look on web sites vs mobile apps (cf. fig. 6).

Brands that score above average on web are considered as web secured. Brands that score above average on app are considered as app secured. Brands that score above average on both web and app are considered as web+app secured.

	Below web+app average standards	Web secured	App secured	Web+App secured
Switzerland			🏦🏦	🏦🏦
Austria			🏦	🏦
Netherlands		🏦	🏦🏦	🏦
Germany		🏦		🏦🏦🏦
United Kingdom		🏦	🏦🏦🏦	🏦🏦🏦🏦
Nordics	🏦		🏦🏦	🏦🏦🏦
Belgium	🏦	🏦🏦🏦		🏦🏦
Italy	🏦	🏦🏦🏦		🏦🏦
Spain	🏦	🏦🏦🏦🏦	🏦🏦	
France	🏦🏦🏦🏦🏦	🏦🏦	🏦	
Other	🏦🏦🏦🏦		🏦	
D·Rating	**13 Brands**	**15 brands**	**14 brands**	**18 brands**

Figure 6 - Distribution of brands per digital channel cyber security readiness and per country

Several observations result from this analysis:

- A small majority of evaluated brands are web+app secured.
- Web+App secured brands can be found in all countries except Spain and France.
- All countries have a majority of brands with a score above average for at least web sites or mobile applications, except France.
- In France, a majority of evaluated brands – that are among the largest retail banks in the country - are below average European cyber security standards, both on web and on app.

4. On average, neobanks outperform established banks on web but not on app.

The average score of evaluated neobanks: Aion, Bunq, Marcus by Goldman Sachs, Monzo, N26, Orange Bank, and Revolut, is 7 points above the average score of evaluated established banks (cf. Fig.7).
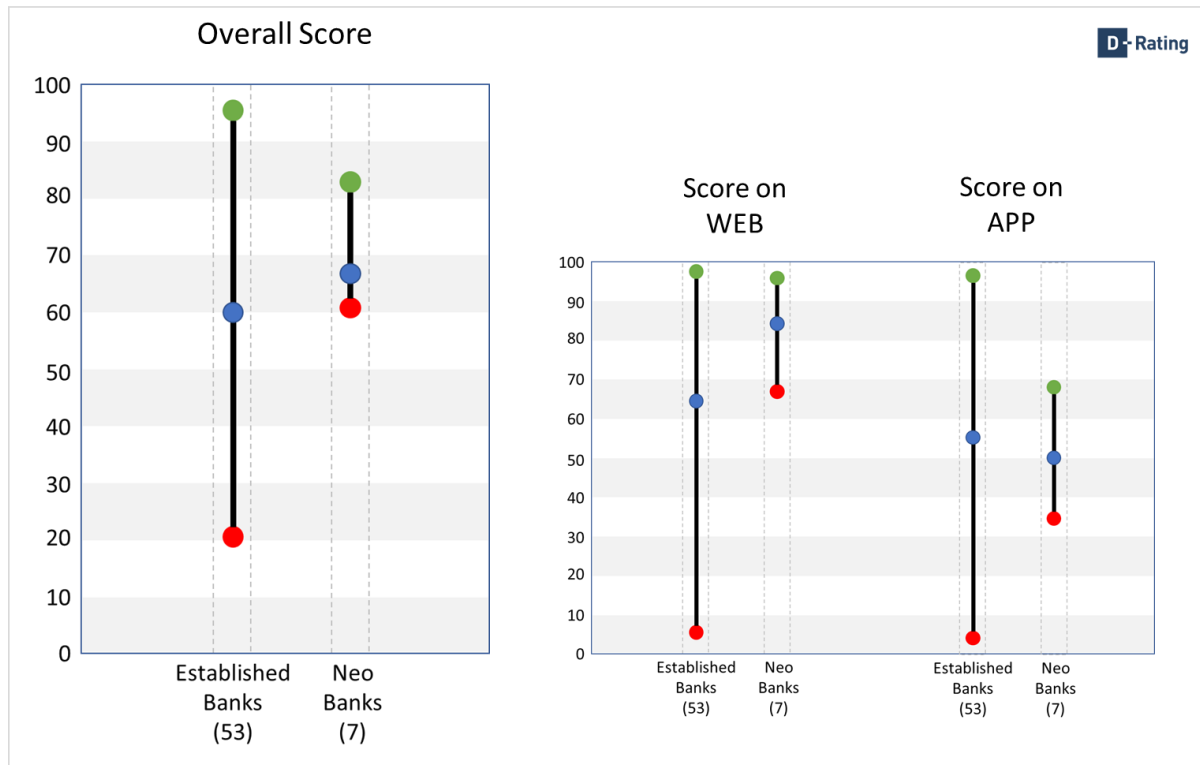

Figure 7 – Cyber security readiness score: Neobanks vs. Established Banks

First, it is interesting to observe that neobanks, that are mobile-first or mobile-only banks, demonstrate excellent cyber security readiness on web but an average readiness on apps.

- The excellent score on web of neobanks is surely due to a lower technical debt related to a much less complicated and more recent infrastructure.
- On the other side, most neobanks develop new functionalities on App first and it is probably more challenging to manage at the same pace of change innovation and cyber security protection.

The web vs. app cyber security readiness matrix (cf. Fig.8) shows that most neobanks are closely grouped in the 'web secured' quadrant. Marcus by Goldman Sachs, one of the 6 Group-A brands, is positioned in the 'web+app secured' quadrant.
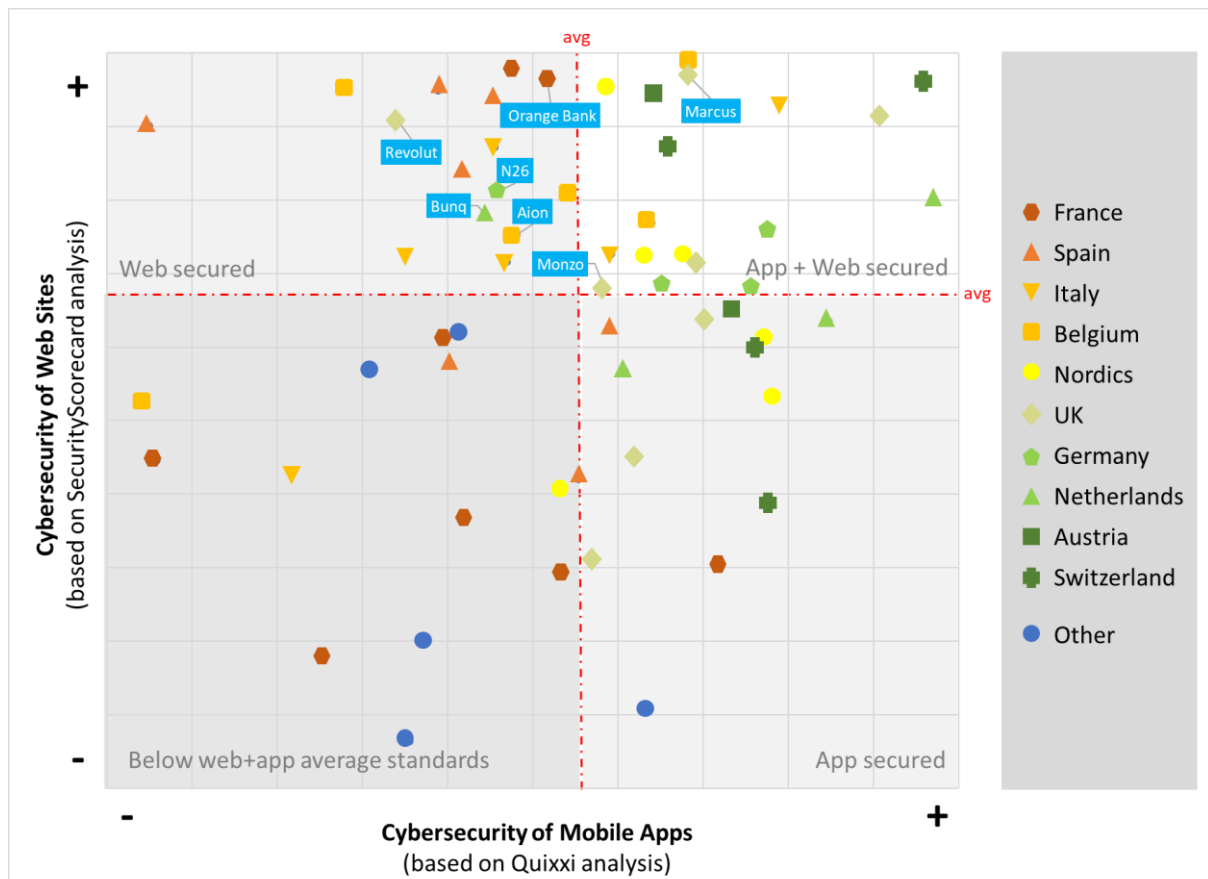
Figure 8 - web vs. app cyber security readiness matrix

N26 and Revolut, the most prominent neobanks today as they have the largest international coverage, are scored just above the average of established brands and below cyber security leaders (at least during the COVID crisis).

About D-Rating

Created in early 2017, D-Rating is the first rating agency of companies' digital performance.

D-Rating provides all market players (investors, financial analysts, fund managers and companies) with an independent rating of the digital competitiveness of companies likely to impact their business performance in the medium term.

Thanks to an innovative approach based on a data-driven methodology - including the analysis of 700+ indicators - D-Rating is already a standard in the financial services sector and is now engaged in the deployment of its activities worldwide and in multiple sectors of activity.