

ANALYSIS ON BANKNOTES SECURITY FEATURES

Analysis the security features on Banknotes from 115 countries worldwide

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Summary



- 01** **Banknotes** is a piece of paper money, to pay a stated sum to the bearer on demand. To prevent counterfeiting, it's important to secured Banknotes with the best security features.
- 02** Here we try to analyze the number of **security features** embedded on the notes, and see the effect on it of forgery case, and country economic status.
- 03** Number of country included in this analysist is **115 countries**, and 40 type of security features divided to **3 Levels [Level 1, Level 2, Level 3]**.



Average usage of Security Features

LEVEL 1

Verifiable by people, can be easily checked by sight, feeling, and moving banknotes

7

LEVEL 2

Machine-readable in the commercial market. invisible to naked eye, but can be checked in commercial cash cycle

1

LEVEL 3

Exclusive method of authentication in central banks. Optimized for high automation detection in central banks, also for forensic usage.

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Country with Highest Amount SECURITY FEATURES

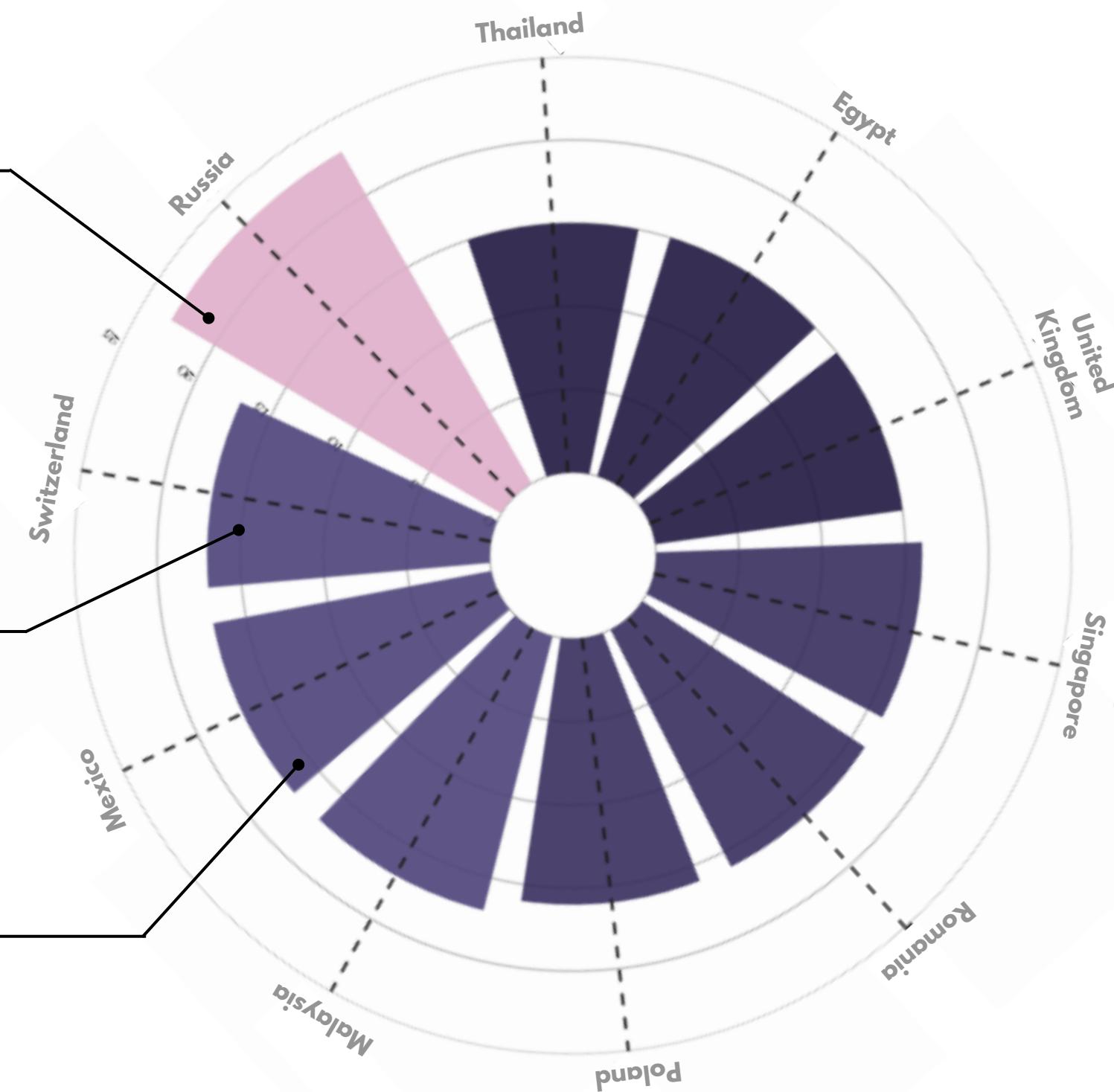
01 Russia Ruble with 23 Features in total



02 Switzerland with 17 Features in total

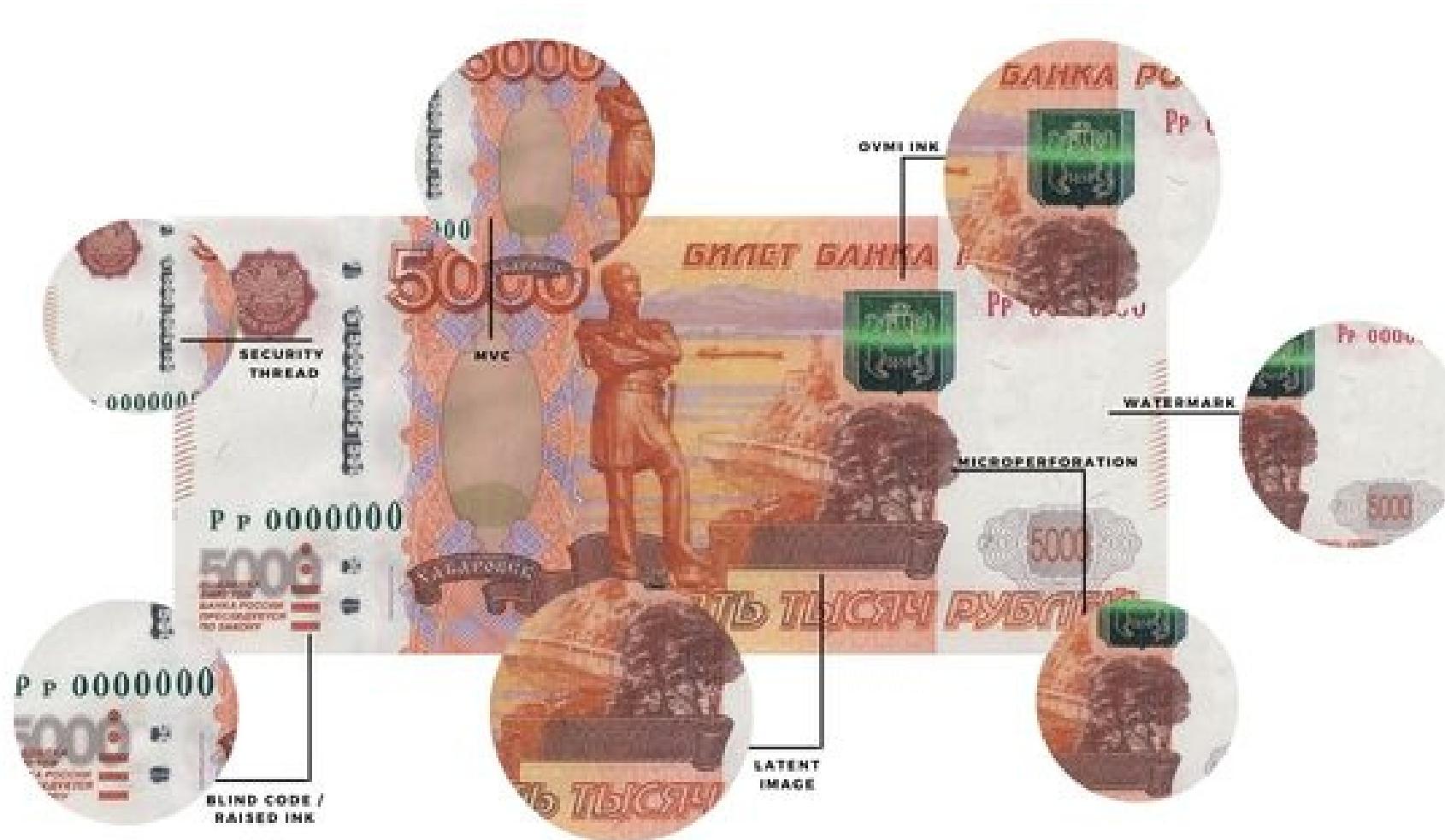


03 Mexico with 17 Features in total



01 Russia Ruble with 23 Features in total

Country with Highest Amount SECURITY FEATURES



Quick glimpse of some security features on Russian Ruble

Russian Ruble is one Banknotes which has the most complete security features on all levels with total **23** features.

The Currency is now considered as the strongest currency in the world

The Security Features on it, help not only secured the notes, but also increase the value



02 Switzerland with 17 Features in total

Country with Highest Amount SECURITY FEATURES



Quick glimpse of some security features on **Swiss Franc**

Swiss Franc is the currency and legal tender of Switzerland and Liechtenstein. It is also legal tender in the Italian exclave of Campione d'Italia which is surrounded by Swiss territory.

The Currency is unique with portrait design

The Security Features on it, like **Russian Ruble** is covered all Level



03 Mexico with 17 Features in total

Country with Highest Amount SECURITY FEATURES



Quick glimpse of some security features on Mexican Peso

Mexican Peso is the currency of Mexico.

The Security Features, are dominated with **Level 1** security features and a few **Level 3** on their notes.

Mexican Peso, is the most counterfeited banknotes with roughly **300.000** counterfeit bills, amounting to about **99,1 million** pesos.

The usage of Security Features on Mexican Peso, it is without doubt the easier access to acknowledge the forged banknotes, so it can help reduce the probability of forgery.



Country with Least Amount SECURITY FEATURES

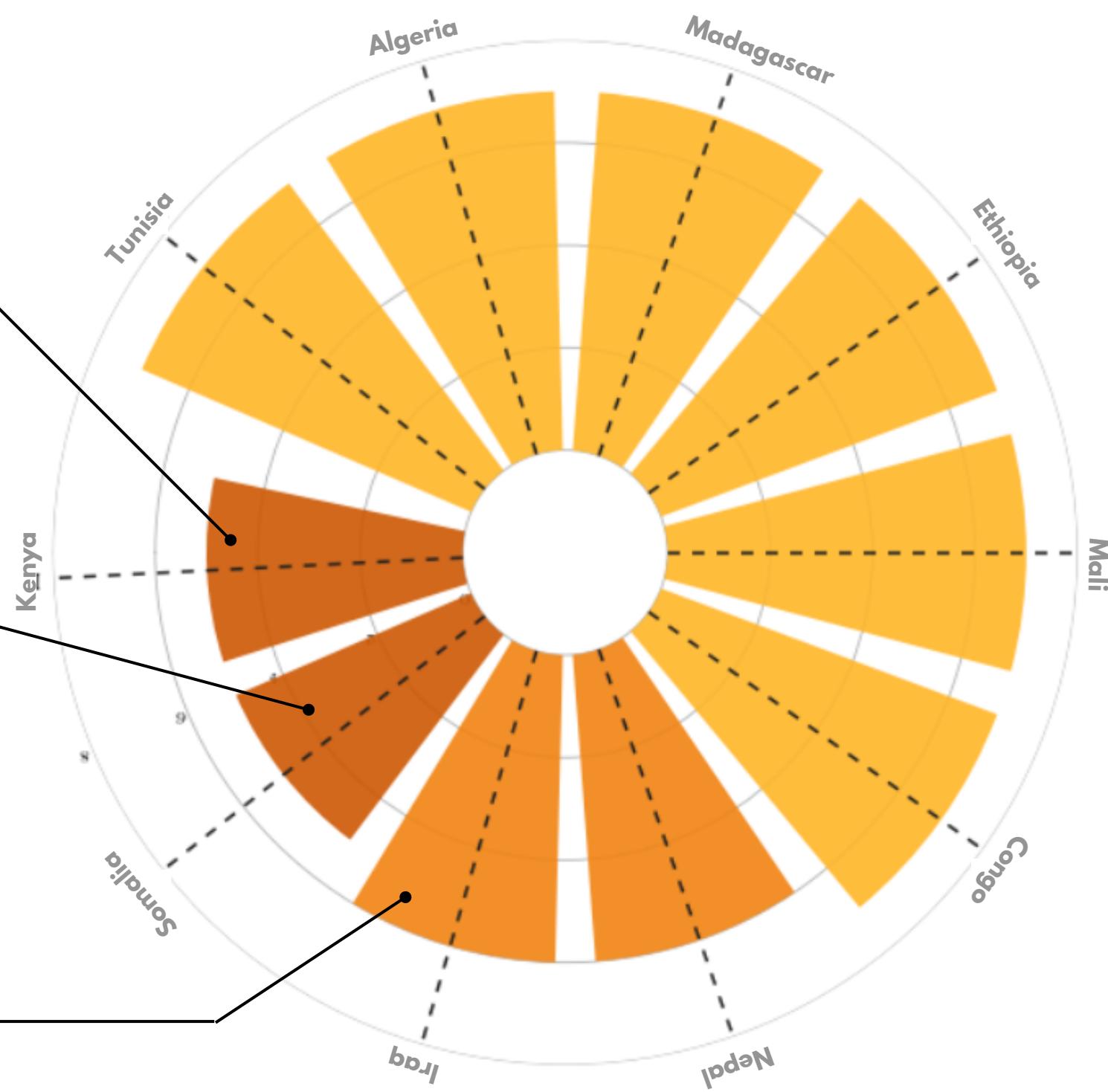
01 Kenyan Shilling with 5 Features in total



02 Somalia Shilling with 5 Features in total

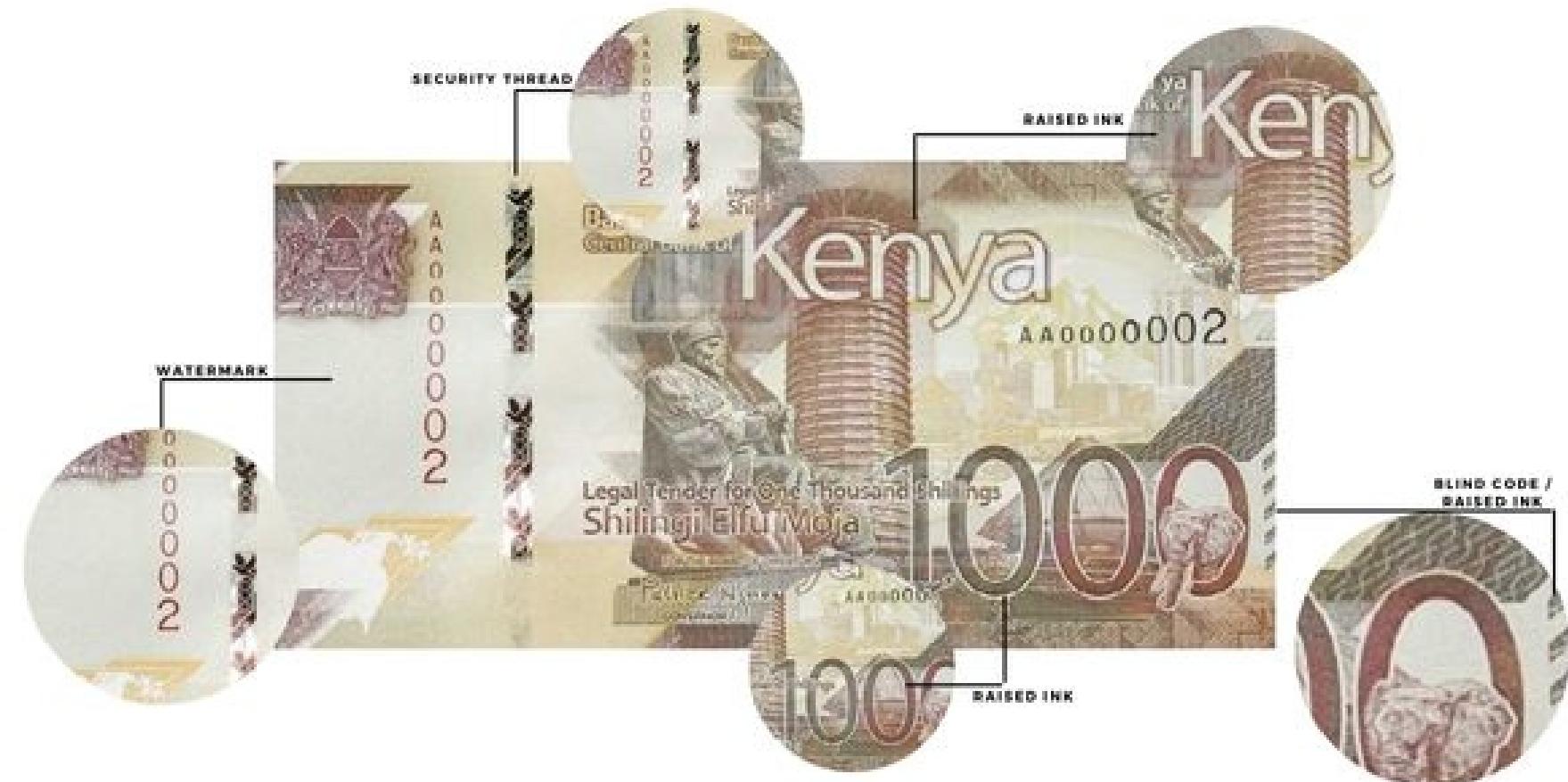


03 Iraqi Dinar with 6 Features in total



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01 Kenyan Shilling with 5 Features in total



Quick glimpse of some security features on **Kenyan Shilling**

Country with Least Amount SECURITY FEATURES

Kenyan Shilling is the currency of Kenya. It is divided into 100 cents.

Kenya had the third largest economy in Sub-Saharan Africa, coming behind Nigeria and South Africa. Compared to its neighbors, Kenya has a well-developed social and physical infrastructure.

The **Security Features**, embedded on it has great function proportion by needed, despite it not as much as **Russian Ruble**



02 Somalia Shilling with 5 Features in total



Quick glimpse of some security features on **Somalia Shilling**

Country with Least Amount SECURITY FEATURES

Somalia Shilling is the official currency of Somalia. It is subdivided into 100 senti.

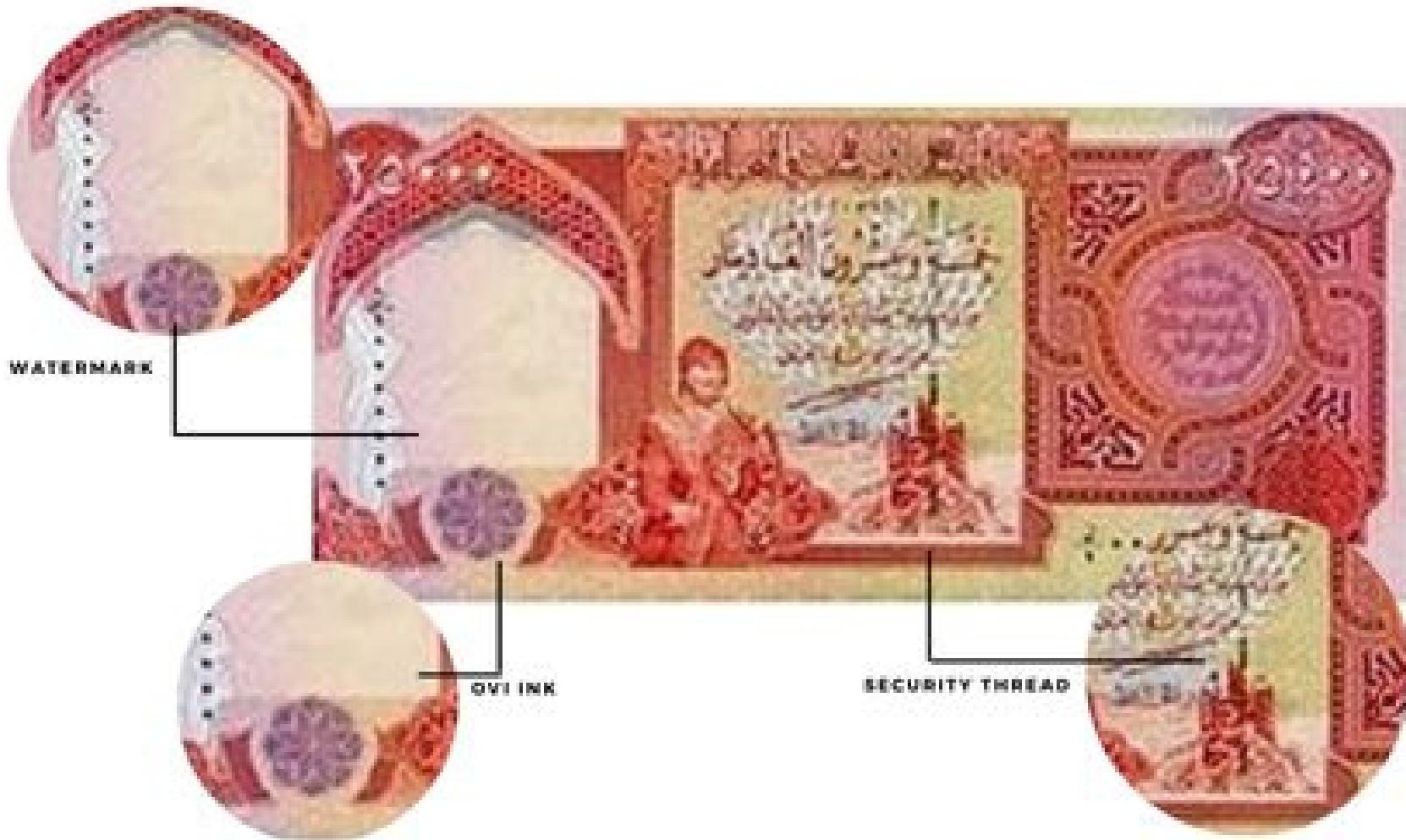
Somali Shilling Security Features, below average total of security features. It is probably because they need to print banknotes with low production cost, but still secured and useful for daily usage.

Somalia GDP Per Capita, made the country declared as Poorest country in the world, based on that condition might because Somalia need simple banknotes, either from production side or economical value.



Country with Least Amount SECURITY FEATURES

03 Iraqi Dinar with 6 Features in total

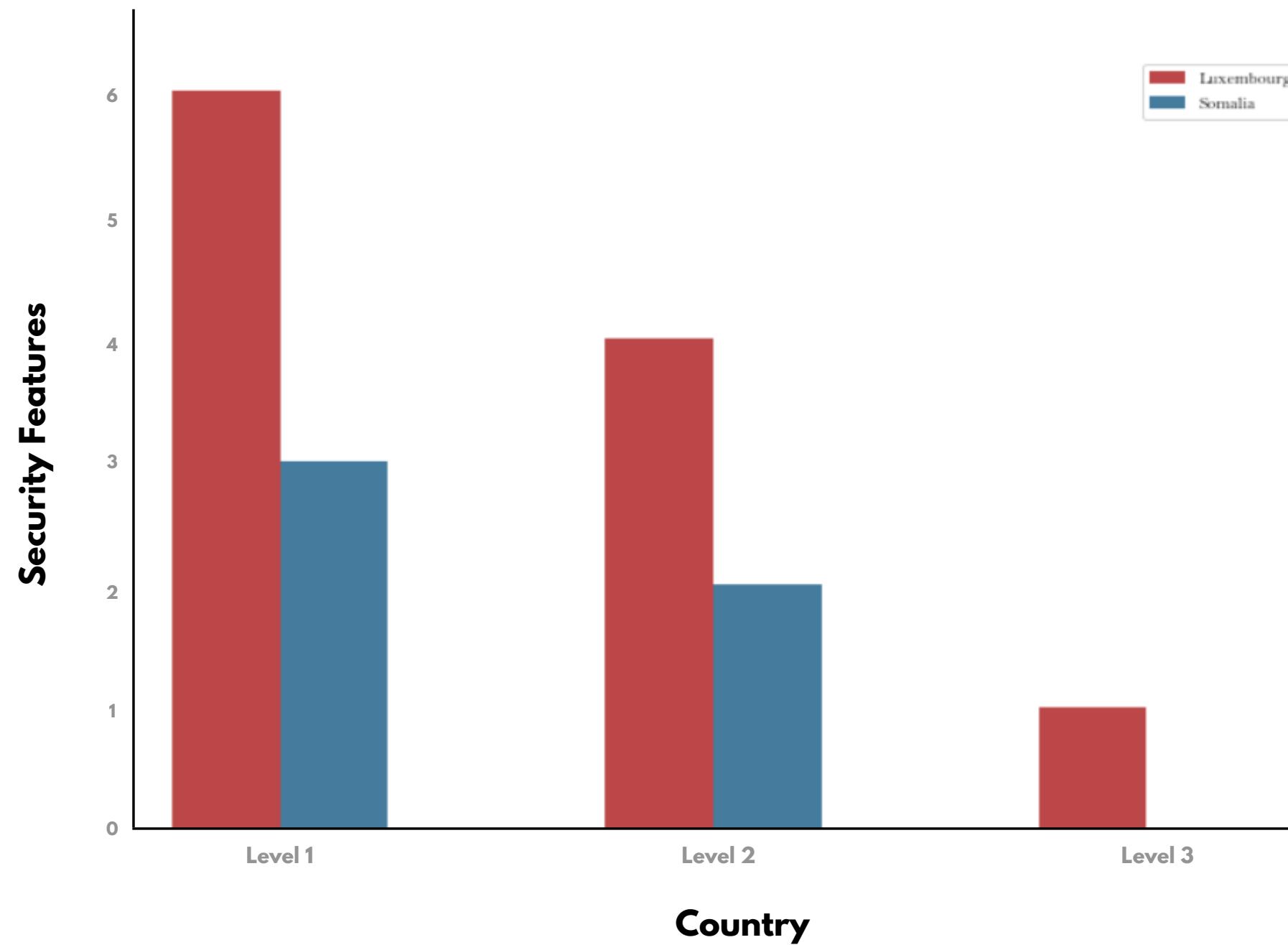


Quick glimpse of some security features on **Iraqi Dinar**

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Richest vs Poorest Country

Banknotes Security Features



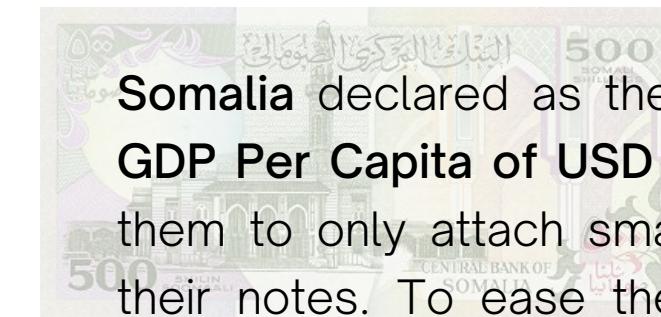
Level 1 Luxembourg has 6 features while Somalia only has 3 features

Level 2 Luxembourg has 4 features while Somalia only has 2 features

Level 3 Luxembourg has 1 features while Somalia used 0 features



Luxembourg using Euro, which is the second-largest reserve currency as well as the second-most traded currency in the world after the United States dollar. Security features embedded on the notes is simple but quite sophisticated with no redundants function for each of the feature.



Somalia declared as the poorer country in the world with GDP Per Capita of USD 303, it is perfectly reasonable for them to only attach small amount of security features on their notes. To ease the detection for counterfeiting and decrease the production cost.



Richest vs Poorest Country

Banknotes Security Features



LUXEMBOURG
EURO

Widely used by other **EUROPEAN** countries
and soaring value of the currency

Simple yet advanced security features, that
also balanced with state-of-the-art design

Advanced security feature :
OVMi Ink or SPARK, and Hologram Feature

VS



SOMALIA
SOMALIAN SHILLING

Only used in **SOMALIA**, with 1 shilling only
equal with 0,0017 Euro

Simple and common security features,
economical banknotes

Security feature :
Intaglio Print, and Watermark

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Indonesia Rupiah

Security Features



Quick glimpse of some security features on **Indonesia Rupiah**

Indonesia, is the world's largest archipelagic state and the 14th-largest country by area

Indonesia Rupiah, is the currency of Indonesia

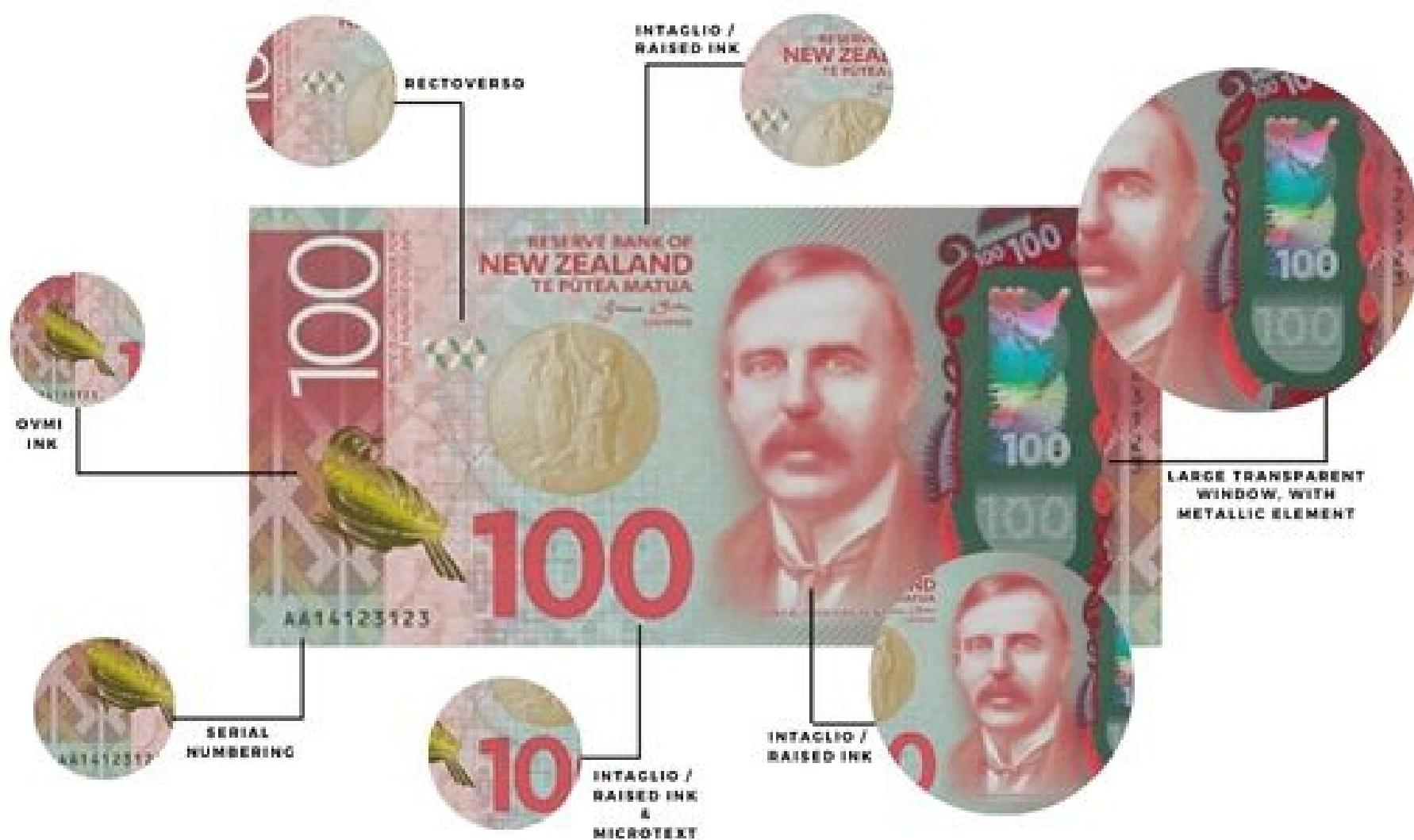
11 Security Features used in total, features all type of level [Level 1 : 8, Level 2 : 1, Level 3 : 2]

Level 1 security features, used to ease forgery detection by sight from anywhere, even at the deepest part of the country



The Most Secured Banknotes

lovemoney.com



Quick glimpse of some security features on **NZD**

New Zealand Dollar (NZD), is the official currency and legal tender of New Zealand, the Cook Islands, Niue, the Ross Dependency, Tokelau, and a British territory, the Pitcairn Islands.

Total Security Features, embedded on the notes, 11 features, with no Level 3 features included

Polymer Substrate, make it harder to counterfeit, with quite advanced Level 1 and Level 2 features



Most Used Features

01 Blind Code



02 Intaglio Print



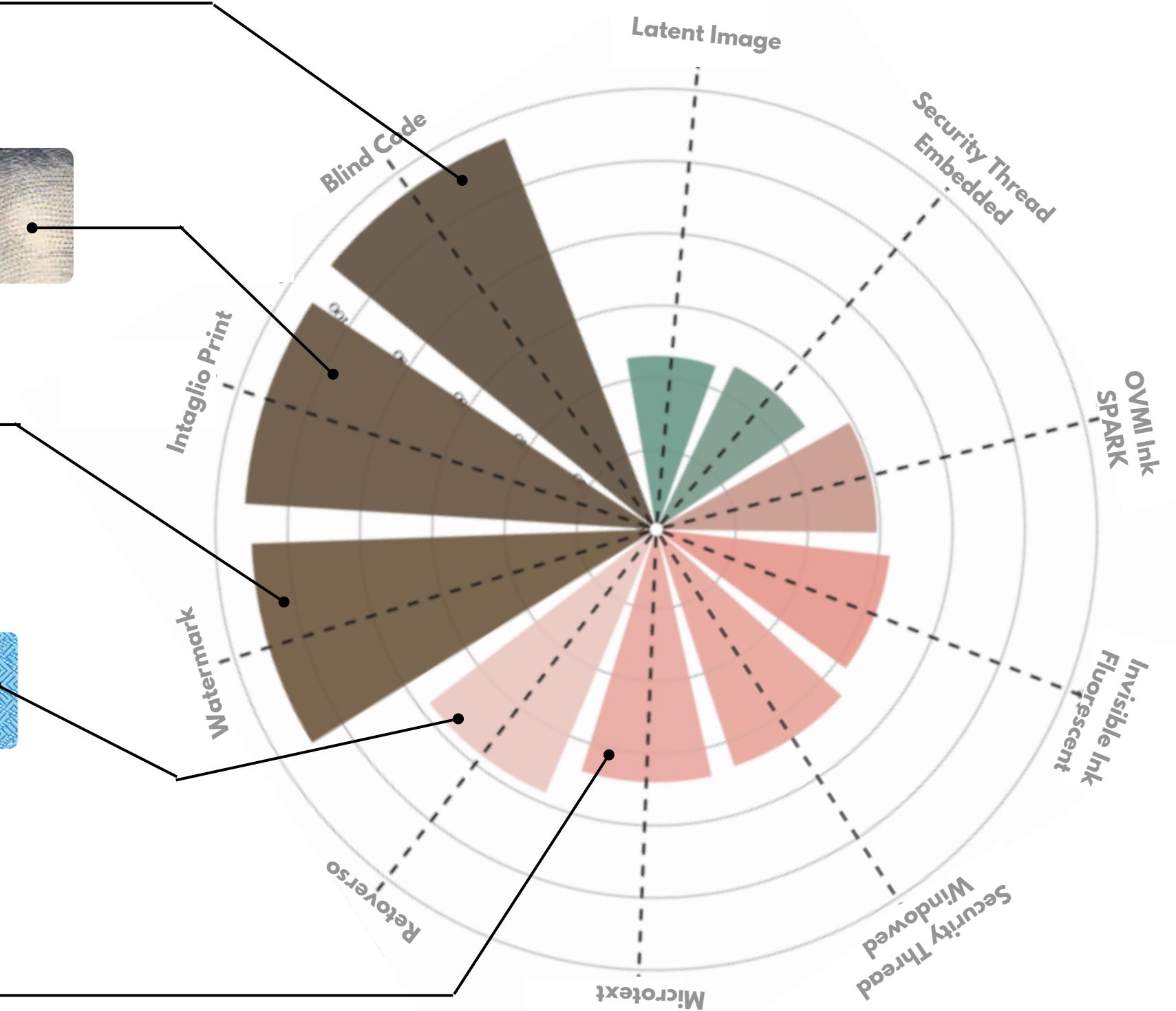
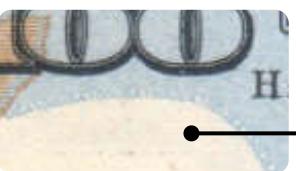
03 Watermark



04 Rectoverso



05 Microtext



Most Used Features

01 **Blind Code**, image shape braille marking features printed in intaglio or raised printing



02 **Intaglio Print**, printing technique from a plate, where printing elements are incised into the surface



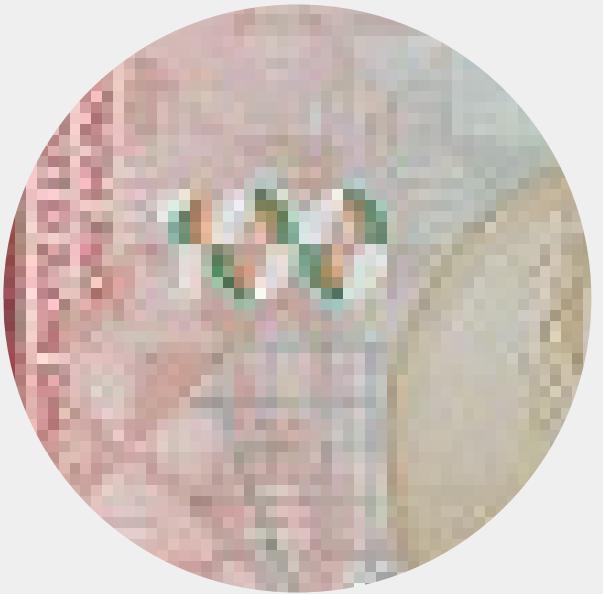
03 **Watermark**, a faint design made that is visible when held against the light



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Most Used Features

04 Rectoverso, an image, a part of which is printed on one side of a banknote and the other part on the other side of a banknote that match up and create a complete image



05 Microtext, a printed image 0,15–0,3 mm high. It is visible only with magnifying devices; can be perceived with the naked eye as a thin continuous line



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Conclusion

Usage of Security Features

Security features has function as security and/or aesthetic on the banknotes. Even though, more features means the better security, but simplify and optimizing the features might secured and reduced the production cost

Security Features based on Country Condition

The currency used by Luxembourg, the richest country in the world, featured quite sophisticated and advanced security features. While Somalia, the poorest country in the world, only has a few security features on their notes

Security Features in Forgery

High amount of security features doesn't mean is forgery proof, but by embedded the right usage of security features, it may help early detection of counterfeited notes, and minimize the chance being circulated widely



Thank You

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