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Working Paper
EIF SME Access to Finance Index - June 2019 Update

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The EIF SME Access to Finance Index June 2019 update
Abstract

This EIF Working Paper elaborates on the most recent update of the EIF SME Access to Finance (ESAF) Index, a composite indicator that monitors SME external financing markets in the 28 EU countries. The ESAF was developed by EIF in collaboration with the London School of Economics. The 2018 ESAF ranking is headed by Sweden, with Germany and Finland completing the top 3. Greece lags the ESAF ranking for the sixth consecutive year in a row, preceded by Cyprus and Romania. The current update constitutes the sixth iteration of this exercise, resulting in a 6-year time series that runs from 2013 to 2018. Because of the discontinuation of one of the ESAF’s sub-indicators, the 2018 update re-evaluated the indicator set and consequently introduced a number of changes to ensure the consistency of future updates. The note provides some background information underlying the most recent ESAF results and discusses the impact of the adapted indicator set on the ESAF outcome.

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1 This paper benefited from the input of Salome Gvetadze, Helmut Kraemer-Eis, Frank Lang, Kristian Pal, Simone Signore and Virginie Varga. All remaining errors are the author’s.
2 The update was performed in June 2019, using the data as it was made available by the referenced sources at the time of writing. It should be warned that economic time series are sometimes subject to updates, where past values can differ slightly from version that were published earlier.
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1 The EIF SME Access to Finance Index (ESAF)

This note presents the results of the most recent EIF SME Access to Finance Index (ESAF) update, using 2018 data. The ESAF Index is a composite indicator that summarises the state of SME external financing markets for the EU28 countries. It was developed in collaboration with the London School of Economics and was first introduced in the European Small Business Finance Outlook, a semi-annual Working Paper (see Kraemer-Eis et al., 2016) documenting SME finance markets in Europe, published by the EIF. The ESAF index provides a convenient tool to compare and benchmark country performance in the context of SMEs’ access to finance in the EU.

**Box 1: The four ESAF subindices and their respective SME access to finance indicators**

<table>
<thead>
<tr>
<th>Loans:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Percentage of SMEs using bank loans in the last 6 months</td>
<td></td>
</tr>
<tr>
<td>▪ Percentage of SMEs using grants or subsidised bank loans in the last 6 months</td>
<td></td>
</tr>
<tr>
<td>▪ Percentage of SMEs not applying for a bank loan because of possible rejection in the last 6 months</td>
<td></td>
</tr>
<tr>
<td>▪ Interest rate for loans under EUR 250k (floating rate with IRF up to 1 year)</td>
<td></td>
</tr>
<tr>
<td>▪ Interest rate spread (under EUR 250k vs over EUR 1m for floating rate with IRF up to 1 year)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Equity:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Venture Capital Investments / GDP</td>
<td></td>
</tr>
<tr>
<td>▪ Value of IPO market / GDP</td>
<td></td>
</tr>
<tr>
<td>▪ Percentage of SMEs using equity capital in last 6 months</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Credit and Leasing:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Percentage of SMEs using bank overdraft, credit line, or credit card overdraft in last the 6 months</td>
<td></td>
</tr>
<tr>
<td>▪ Percentage of SMEs not applying for the above because of possible rejection in last the 6 months</td>
<td></td>
</tr>
<tr>
<td>▪ Percentage of SMEs using leasing or hire-purchase in the last 6 months</td>
<td></td>
</tr>
<tr>
<td>▪ Median interest rate charged to SMEs for credit line or bank overdraft application in the last 6 months</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Macro Factors:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Gap between actual and potential GDP</td>
<td></td>
</tr>
<tr>
<td>▪ Bank non-performing loans to total gross loans</td>
<td></td>
</tr>
<tr>
<td>▪ Percentage of SMEs ‘feeling that there are no financing obstacles’</td>
<td></td>
</tr>
</tbody>
</table>

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3 The update was performed in June 2019, using the latest data available at the time of writing (2018).
4 In the context of a Capstone project.
5 Due to the discontinuation of the indicator ‘availability of financial services’, formerly contained in the macro-subindex and sourced from the World Economic Forum’s competitiveness report (WEF, 2017), the entire set of indicators has been re-evaluated and the decision has been made to exclude three other indicators to ensure continuity in future updates. The ‘strength of legal rights index’ and ‘depth of credit information index’ were omitted from the macro subindex and the ‘venture capital availability index’ was omitted from the equity subindex. The impact of these changes on the aggregate ESAF outcome is discussed in Chapter 3.
6 The ECB recently published a corrected version of this indicator, dating back to 2016. These corrections have been retro-actively applied to the ESAF as well.
7 Data on non-performing loans are made available with a 2 year time lag. Therefore, the ESAF index of year t, which is published in year t+1, uses information on non-performing loans for year t-1.
The index is composed of four subindices, three of which are related to different financing instruments, while the fourth covers the general macro-economic environment in which SMEs operate. The subindices in turn contain a series of indicators relevant to the theme the subindex is supposed to capture. Box 1 lists the four ESAF subindices and their respective subindicators. The methodology underlying the construction of the ESAF are elaborated upon in Gvetadze et al. (2018) and can be summarised as follows: the normalisation process proceeds using the min-max method and indicators are geometrically aggregated, after being weighted equally.

The methodological choices have a number of implications for the interpretation of the ESAF index. The min-max normalisation, for example, implies individual countries’ outcome command a relative interpretation, vis-à-vis the worst and best performing country for each of the subindicators. Hence, while it is possible to compare the ESAF values of countries within a given year, or compare how the relative position of countries has changed over time, it is not recommended to interpret an ESAF value isolated on a scale of 0 to 1. For example, a value of 0.5 does not in itself imply a country performs average in terms of access to finance. Instead, it implies a country performs average vis-à-vis the best and the worst performing country. It is also not possible to track the performance of an isolated country’s ESAF over time. An increase in the value of its index does not necessarily imply that SMEs in that particular country experienced an increased access to finance. For comparisons over time, it is advised to use a country’s ranking within the EU instead.

It is further advised to avoid placing excessive emphasis on a country’s performance on an individual subindex. Although the ESAF is carefully constructed and several robustness checks have ensured that aggregate results are not driven by relatively minor variations in individual indicators, the equity and macro subindices now consist of just three subindicators, which are in turn derived from surveys and/or are estimated. Once aggregated to the level of the aggregate ESAF index, the influence of individual subindicators is limited. At the level of a subindex, however, it can be more pronounced. Interpretation of the relative outcomes of the subindices is possible, but should nevertheless proceed with caution. It is advised to revert back to the underlying subindicators in case of doubt, which is exactly what this publication aims to do. Because of the black-box nature of a composite indicator, its credibility stands or falls with the transparency at which its results are communicated. Therefore, aside from the presentation of the outcome of the ESAF and its subindices, the analysis also elaborates on some of the underlying economic indicators, to explain the most important dynamics of the ESAF between 2017 and 2018.
The 2018 ESAF results

The 2018 ESAF results are presented in Figure 1. The ESAF ranking is now headed by Sweden, with Germany and Finland completing the top 3. Greece lags the ESAF ranking for the sixth consecutive year in a row, preceded by Cyprus and Romania. In the middle of the distribution, one can roughly distinguish two groups of countries with very similar ESAF values: an upper-middle group with the Czech Republic, Netherlands, Malta, Estonia, Denmark, Lithuania, Poland and Spain; and a lower-middle group with Latvia, Slovakia, Hungary, Croatia, Italy and Portugal.

Figure 1: The 2018 EIF SME Finance Index

Source: Author

Annex I illustrates the evolution over time since 2013.
The current update brought about significant changes for a number of countries, most notably for Austria, who experienced the biggest drop in its access to finance index, both in absolute as in relative terms (-27%). This was caused by a deteriorating equity environment (Figure 2), as there were no IPOs in 2017, and also the percentage of SMEs using equity declined further, dropping below 0.5%. The share of Austrian SMEs using equity financing has been in a declining trend since 2013, when it was still at 3.3%. Also venture capital investments as a share of GDP declined slightly between 2017 and 2018 (see Annex 1). The decline in access to finance conditions occurred despite of high scores on both the loans and credit & leasing subindex, as well as a significant improvement in Austrian macro conditions, as the gap of actual versus potential GDP turned positive. This can be explained by the aggregation methodology underlying the ESAF construction. The geometric aggregation technique implies that a low score on one financing instrument cannot easily be compensated by a better performance on the other subindices. This theoretical property ensures that the index captures the fact that an optimal SME financing environment is characterised by access to a variety of different financing instruments, not just an abundance of one specific source.

Also in the United Kingdom SME access to finance conditions appear to have deteriorated substantially, following its unexpectedly good performance in 2017, the post-Brexit year. While the UK’s adverse evolution is rooted in a deterioration across several markets simultaneously, the biggest driver was the deterioration in equity conditions. A closer look at the subindicators reveals that all three equity indicators were adversely impacted between 2017 and 2018 relative to the average evolution in the EU28 countries. The percentage of UK SMEs using equity capital dropped from 2.7% to 1.5%, while for the EU on average it increased slightly from 2% to 2.2%. Also the value of the British IPO market evolved negatively and decreased from 0.37% of GDP to 0.33%, going against the EU country average, which increased slightly from 0.16% to 0.18%. Finally, while venture capital investments as a share of GDP increased slightly from 0.076% to 0.077%, the EU average for this indicator increased more strongly (0.024% to 0.035%), explaining the relative deterioration of the British equity subindex.

In addition, notable deteriorations in the SME access to finance environment were observed in Luxembourg (-22.3%, down 6 spots), which has experienced a consistent decline in SME access to finance conditions since 2015; Poland (-20.6%, down 9 spots), where similar to Austria a decline in the equity environment was observed; and Malta (-13.7%, down 3 spots), where an improvement in finance conditions on the loan market and a better overall macro environment could not compensate for a worsening of the credit & leasing and loan conditions.

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9 Due to the min-max normalisation technique, a comparison with the best and worst performing country would be most relevant to explain a country’s score on a subindex. However, a comparison with the average across EU28 countries is more intuitive, and more relevant to explain changes in the resulting ranking.
Figure 2: The ESAF subindexes: Equity, Loans, Credit & leasing and the Macro environment

Source: Authors
For other countries, the external financing environment improved. This was the case for Sweden, which managed to re-take the top spot after losing it to Austria\textsuperscript{10} in 2017. Even though access to equity finance deteriorated significantly for Swedish SMEs, the country still managed to perform relatively well vis-à-vis other countries, as it was still ranked first on the equity subindex ranking. This means that the deterioration in the value of the equity subindex did not adversely impact Sweden’s ranking on the aggregate index. Swedish credit and leasing conditions improved significantly and as a result the country scored consistently well over all four subindices, explaining its place at the top of the ESAF ranking.

Slovenia managed to move up 10 spots in the ranking, the biggest improvement recorded among all EU countries. Its ESAF score increased by 21.3%, so its sizeable improvement in ranking was not just due to its initial position in the densely populated mid-range of the ESAF distribution, where a small gain in value would lead to a large gain in ranking spots. The Slovenian SME access to finance market has improved remarkably over the past four years, as in 2014 it was lagging all but four countries. Its gradual climb to the upper regions of the distribution was driven by consistent improvements on the loans, credit & leasing as well as the macro subindex. To continue its path up the ranking, the Slovenian equity ecosystem needs further development, as its 2018 performance on the equity subindex can be considered average at best.

\textbf{Figure 3: The EIF SME Finance Index: value comparison, 2018 vs 2017}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure3}
\caption{The EIF SME Finance Index: value comparison, 2018 vs 2017}
\end{figure}

\textit{Source: Author}

\textsuperscript{10} As documented in the iteration of the ESAF update (Torfs, 2018), the 2017 ranking was headed by the UK. However, due to the corrections discussed in footnote 2, this was no longer the case. Section 3 elaborates on the effects of the corrections on the ESAF. Annex I provides an updated year-on-year time comparison for all years from 2013 to 2017.
Other notable improvements were observed for three CESEE\(^{11}\) countries: Estonia (+41.5%, up 7 spots), Czech Republic (+30.4%, up 7 spots) and Croatia (61.3%, up 7 spots). SME access to finance conditions also improved considerably in Belgium and Portugal. In Belgium, improved access to equity financing drove the aggregate evolution, together with an increase in the credit and leasing subindex. For Portugal, only the credit and leasing market improved, while all other factors remained constant.

Finally, Figure 3 plots the 2018 ESAF values against those of 2017. All countries located in the red section of the graphic experienced a (relative) deterioration in external financing conditions, while the opposite holds true for countries in the green section of the graph. This graphic representation of the data visualises potential patterns of polarisation. Figure 3 shows no signs of polarisation in national access to finance conditions within the EU28, as positive and negative changes in the ESAF index are scattered randomly across the distribution.

\(^{11}\) Central, Eastern and South-Eastern Europe.
3 The effect of adapting the set of indicators

The 2018-update of the ESAF index included a number of changes to the underlying set of access to finance indicators. Due to the discontinuation of a survey-based indicator, ‘availability of financial services’, formerly contained in the macro-subindex and sourced from the World Economic Forum’s competitiveness report (WEF, 2017), the entire set of subindicator was re-evaluated in order to ensure continuity in the ESAF index in future updates. Upon careful consideration, three additional indicators were omitted, two of which were contained in the macro subindex (‘strength of legal rights index’ and ‘depth of credit information index’) and another in the equity subindex (‘venture capital availability index’).

During its development phase, the ESAF index underwent a series of robustness checks to ensure its outcome was not excessively sensitive to variations in one single subindex or indicator. The exercise below, which compares the 2015 version of the ESAF index\textsuperscript{12} using both the former and the updated indicator series shows that the adaptation of the indicator set did not lead to drastic changes in the ESAF’s outcome. Consequently, the conclusions drawn from earlier ESAF updates still hold for the updated version. Figure 4 illustrates the impact of omitting the four subindicators. In addition, Figure 5 illustrates how the change impacts the country ranking. For 8 countries, omitting the four indicator did not impact their place in the ranking, while for 9 other countries, the change resulted in a ranking shift of 1 spot. For just two countries the ranking changed by more than 3 spots (Slovenia and Czech Republic).

Figure 4: The effect of the change in the indicator set on the 2015 ESAF outcome

\textsuperscript{12} The comparative analysis proceeds using the ESAF indexes of year 2015. While the 2015/2016 WEF competitiveness report (WEF, 2014) does report on the ‘availability of financial services’ indicator, it repeats the values of the 2014/2015 report. At the time of writing of the 2017-update of the ESAF index (Torfs, 218), it was not yet clear the concerned index would be discontinued, so it was still included in the calculations, repeating the information published in the 2014/2015 WEF report.
Because the number of indicators decreased in both the macro subindex (from 5 to 3) and the equity subindex (from 4 to 3), it is inevitable that the remaining individual indicators will exert a greater influence on their respective subindex. This can lead to an increase in year-on-year variation of the subindices and their country ranking, and hence, the aggregate ESAF index. Table 1 lists the average year to year change in a country’s ranking for both the initial and the updated ESAF versions. The results show that the ESAF ranking indeed became characterised by more variation over time. For example, using the old indicator set, a country shifted about 2.3 places on average in the ranking between 2014 and 2015. This increased to 3.1 after omitting the 4 indicators. The country ranking for the equity subindex was most affected by the change in the indicator set. This is not surprising since the omitted subindicator ‘venture capital availability index’ exhibited only limited variation over time and therefore exerted a moderating influence over the other three subindicators, which are significantly more volatile over time. Annex II lists the updated versions of the ESAF for the years 2013-2017.

**Table 1: The average absolute change in country ranking for the affected subindices and the ESAF**

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<tbody>
<tr>
<td></td>
<td>Initial</td>
<td>Updated</td>
<td>Initial</td>
<td>Updated</td>
</tr>
<tr>
<td>Equity subindex</td>
<td>3.5</td>
<td>4.1</td>
<td>2.9</td>
<td>3.6</td>
</tr>
<tr>
<td>Macro subindex</td>
<td>1.9</td>
<td>2.5</td>
<td>1.9</td>
<td>2.1</td>
</tr>
<tr>
<td>ESAF</td>
<td>2.1</td>
<td>2.4</td>
<td>2.3</td>
<td>3.1</td>
</tr>
</tbody>
</table>

Source: Author
4 Conclusion

This note detailed the most recent update of the EIF SME Access to Finance Index, using 2018 data, which constitutes the sixth data point in the ESAF time series. The results presented in this note showed how the 2018 ESAF ranking is headed by Sweden, with Germany and Finland completing the top three. Greece lags the ESAF ranking for the sixth consecutive year in a row, preceded by Cyprus and Romania. The note also documented a few changes in the ESAF’s indicator set, which were implemented to ensure continuity in future updates after a similar indicator previously contained in the ESAF was discontinued. The extensive robustness checks undergone during the initial construction phase ensured that the impact of these changes on the ESAF Index and the country ranking was limited. This was confirmed by the comparative analysis which compared the ESAF under both the new and the previous indicator set. It brought to light that the conclusions drawn on the basis of the previous version are robust to the implemented changes.
References


Annex

Annex I: The ESAF, evolution between 2013 and 2018
Annex II: time variation in the ESAF for the years 2013-2017
About …

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