



The IMF still recommends tightening belts

An analysis of the reports published as part of Article IV of the IMF's Articles of Agreement based on keywords and the tone of recommendations

Warsaw, December 2019

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ISBN 978-83-66306-47-9

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Key findings

Prioritising liberal policy

dominated before the crisis of 2008 and returned after the crisis

Prioritising restrictive policy

dominated throughout the period analysed; during the crisis, it gave way somewhat to expansive policy

The tone of recommendations

deteriorated during the crisis. Since 2012, it has been increasingly positive



- € This working paper analyses the IMF's recommendations before and after the economic crisis of 2008 in terms of their tone. Until then, most observers believed that the institution is subordinated to the Washington Consensus,¹ the ten principles of economic liberalisation and the consolidation of public finances. The repercussions of the crisis resulted in many IMF economists, along with its leadership, starting to emphasise social matters and talk about inequality, rather than pure economic policy without a social element. Did this really happen? To find out, we analysed almost 1700 reports recommending reform that the IMF publishes cyclically for most of its members.
- € Poorer countries publish IMF reports more rarely. Analysis of these reports' content shows that, for low-income countries, the national authorities less likely to be consulted concerning recommendations and their opinion is less likely to be incorporated.
- € The observed changes in the trends of the economic policy trend polarisation indicator (TPI) and the tone of recommendation indicator (RTI) correspond to changes in the pace of global GDP growth. RTI is negatively correlated with the GDP growth rate and there is a fairly weak positive correlation between TPI and GDP.
- € A comparison of the TPI and RTI indicators shows that an increase in reports' negative tone corresponds to increased prioritisation of social policy. Conversely, an improvement in tone is accompanied by the increased prioritisation of liberal policy.
- € The tone of recommendations deteriorated significantly during two periods. The first began in 2007 and lasted until 2009 (the financial crisis). The second was in 2011. Since then, the tone has become more positive each year.
- € During the financial crisis, the tone of recommendations deteriorated significantly and social economic policy, along with expansive fiscal policy, became more of a priority.
- € The dominant trend of prioritising restrictive fiscal policy less, and prioritising an expansive one more, during the financial crisis is most visible in the richest countries. In low-income countries, the prioritisation of restrictive fiscal policy dominated.
- € During the financial crisis, a narrative of restrictive financial policy and liberal economic policy dominated in reports on Poland.
- € Subjects like inclusive or sustainable growth, as well as income inequality, were low-priority in IMF reports.
- € There is a discrepancy between the IMF's declarations at the political level and the recommendations in the reports that encourage, and sometimes force, individual countries that borrow money from the Fund to reform.

¹ This document, which forms the basis of the US's properly conducted and recommended economic policy, was presented by American economist John Williamson in the late 1980s. It is considered the canon of the IMF's and the World Bank's economic policy.

Introduction

2004-2018

the years in which the reports analysed in this PIE report were published

1693

number of reports analysed in this PIE report

215

number of countries covered by the analysed reports

The International Monetary Fund (IMF) was established to ensure the global monetary system's stability. In addition to looking after the international exchange rate and payment system, it monitors the implementation of economic and financial policy by member countries (International Monetary Fund, 2006). Supervision may involve bilateral discussions with member countries as part of Article IV of the IMF's Articles of Agreement. During these discussions, a team of economic experts from the IMF goes on a mission to the country to analyse the situation in fundamental sectors: fiscal, monetary and structural policy, competitiveness and the financial sector. Quantitative analyses are supplemented with meetings with the government and the central bank, as well as companies, trade unions, employers' organisations, the parliament and NGOs (Harper, 1998). The mission results in a report published as part of Article, which contains the results of earlier analyses and recommendations for domestic policy on exchange rates, inflation, the budget deficit, and social and employment programmes (Roy, Ramos, 2012). They encompass recommendations that, in the IMF's opinion, will support macroeconomic and financial stability in the country and internationally.

This working paper aims to identify and analyse the changes in the IMF's priorities that can be seen in its reports on the economic and financial situation in member countries. It analyses reports published as part of Article IV of the IMF's Articles of Agreement.

These reports have three fundamental features, which makes analysing the frequency of keywords and the tone of recommendations an suitable tool for studying them:

- € Firstly, consultations with member countries as part of Article IV take place cyclically, which means that the reports are published regularly;
- € Secondly, since February 2004, the reports have been published on the IMF's initiative (unless the country objects), which means that many reports are available;
- € Thirdly, the reports have a similar structure and a standardised form, which allows them to be compared.

The changes in the IMF's priorities will be analysed using text mining and sentiment analysis of the reports. This allows trends in the changes in the IMF's priorities on fiscal policy (expansive vs. restrictive) and economic policy (liberal vs. social) to be reconstructed. In this report, "priority" is

not synonymous with “recommendation”. For instance, stating that restrictive fiscal policy is the IMF’s priority does not indicate whether or not this kind of policy is recommended; it merely means that it appears relatively often in the reports.

The following research hypotheses were tested:

- (1) the IMF’s priorities, expressed in the relative frequency of keywords and the tone of recommendations, changed over time, evolving from a more liberal attitude before the crisis of 2008 to a more social one afterwards;
- (2) trends in priorities depend on countries’ income level.

To verify these hypotheses, IMF reports (Article IV) from 2004-2018 were analysed,

focusing on the following groups: Visegrad Group (V4), Eurozone (EURO12 and EURO19) and OECD countries. For the income criterion, the authors used the World Bank classification,² which divides countries into low- (L), lower middle- (LM), upper middle- (UM) and high-income (H).

This working paper begins by examining the characteristics of the database of IMF reports and the methodological tools used in the analysis. It then presents the results of the analysis of trends in the IMF’s priorities and the tone of recommendations. The discussion section seeks to explain the reconstructed trends. The paper closes with a summary that includes suggestions for further research.

² <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519> [accessed: 10.07.2019].

Database and method

The database is made up of reports from reviews as part of Article IV of the IMF's Articles of Agreement. 2119 documents in PDF format were downloaded from the IMF's website.³ They were downloaded using the Scrapy library, a web crawling tool that automatically obtains data. In addition to the PDF files, all the meta-data available was downloaded, such as the title, author, date of publication, summary and the document's series number. The documents were then converted into text format using the pdftotext tool.⁴ Some of the files (especially the older ones) are available as scans of physical documents; these cannot simply be converted into text documents, so they were left out of the analysis.⁵ Tools for converting PDF files often struggle with more unusual text structures such as tables or charts. The file achieved using pdftotext contains text from elements of this kind, but loses their structure, which introduces additional noise.

The reports' title and series number were used to identify documents and remove duplicates. The titles also provided each report's country⁶ and year.⁷ This also required that titles, which are not always in standard format, be cleansed. Problems included typos, no year (or

the wrong year) in the title or the library struggling to identify the country. The search results on the IMF's website also contain a duplicate with different titles.⁸

This study used shallow text analysis. The bag-of-words model used assumes that a text is a list of words with corresponding numbers; grammatical dependencies and word order in the text are ignored. The texts obtained were normalised by removing punctuation marks and numbers, and then through tokenisation and lemmatisation. For these two processes, the spaCy library was used.⁹ Tokenisation involves dividing the text into tokens, units with an ascribed meaning, in this case words. Lemmatisation gives the tokens an infinitive form, which allows words to be identified regardless of the inflectional form used in the text.¹⁰ After that, so-called word stops, the most popular words in the English language, were removed. These words do not add any value to the analysis. There is no consensus on which words should be included in this collection; in general, natural language processing tools use slightly different word lists and their selection often depends on the problem being analysed. In this case, the set proposed by the scikit-learn library¹¹ was used. It

³ <https://www.imf.org/en/Publications/Search?series=IMF+Staff+Country+Reports&when=After&year=1980&title=Article> [accessed: 10.06.2019].

⁴ <https://www.xpdfreader.com/pdftotext-man.html> [accessed: 10.06.2019].

⁵ To convert scans to text, tools like Optical Character Recognition (OCR) should be used. This introduces additional technical difficulties and the results might not be of the best quality.

⁶ To identify each country, the ISO 3166-1 alpha-3 standard was used to assign unique names and three-letter codes, along with the hdx-python-country library, <https://pypi.org/project/hdx-python-country/> [accessed: 10.06.2019].

⁷ The year of publication on the website often differs from the year that the report concerns.

⁸ <https://www.imf.org/en/Publications/Search?series=IMF+Staff+Country+Reports&when=After&year=2010&title=Bolivia+2018+> [accessed: 10.06.2019].

⁹ <https://spacy.io/> [accessed: 12.06.2019].

¹⁰ <https://en.wikipedia.org/wiki/Lemmatisation> [accessed: 12.06.2019].

¹¹ <https://scikit-learn.org/> [accessed: 12.06.2019].

was also used for further analysis, adding words specific to the documents being examined.

The analysis considered how often words (unigrams) and two-word terms (bigrams) occurred and compared this frequency over the years or for a group of countries. The

varied number and arrangement of words in the document makes comparison of absolute values impossible. Instead, relative frequency was used: the number of times a phrase occurred per 1000 unigrams/bigrams, using the following formula:

$$\text{Relative frequency} = \frac{\# \text{ Unigram/Bigram} * 1000}{\# \text{ Unigrams/Bigrams overall}}$$

↘ **Table 1.** Number of reports in 2004-2018

Year	Number of reports
2004	104
2005	114
2006	114
2007	114
2008	112
2009	103
2010	116
2011	111
2012	112
2013	112
2014	122
2015	113
2016	126
2017	128
2018	113

Source: prepared by the authors.

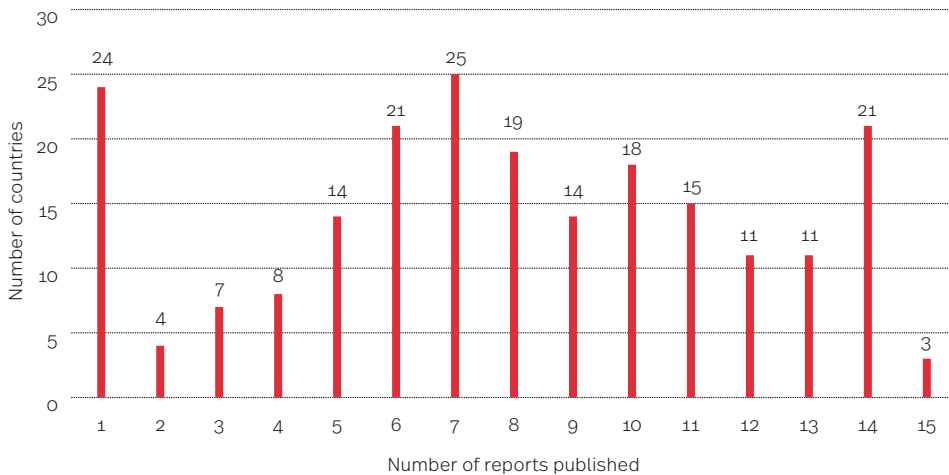
After removing the duplicates of thematic reports (Selected Issues Reports and Spillover Reports), which differ in structure from other reports from the reviews as part of Article IV, 2086 reports from 1995-2019 initially qualified for analysis. Given the quality of the study, it was assumed that the number of reports in the years analysed should exceed 100 per year. For this reason, 1693 reports from 2004-2018 were ultimately used in the analysis (Table 1).¹²

Over the period studied, reports for 215 countries were published. For 21 countries, reports were published in each of the 15 years examined. For 25 countries, there were seven reports each and, for 24, there was just one report each (Chart 1). On average, the reports

during the period examined had 12,000-16,000 words (Table 2). The difference in the number of words in individual years was quite weak; it was slightly stronger in 2004-2013 (coefficient of variation above 30%) and weaker in 2014-2018 (coefficient of variation below 30%). The difference between the minimum and the maximum number of words was the biggest in reports published in 2016; the smallest difference was in reports from 2018.

The distribution of the number of words in the reports presented in Chart 2 points to a right-sided asymmetry, which means that most reports had a lower word count than the average (13,807 words) for all the reports in this period. The most reports had 11,000-12,000 words.

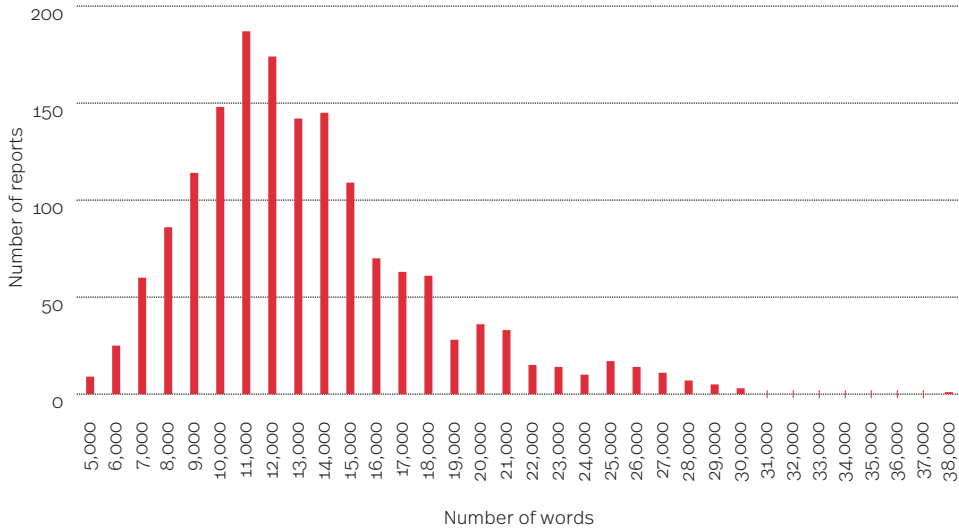
▼ Chart 1. Number of reports per country in 2004-2018



Source: prepared by the authors.

¹² Even though Table 1 indicates that the IMF published 1714 reports in 2004-2018, 21 documents were left out of the analysis: reports on groups of countries (12 Euro Area Policies reports and one report for Serbia and Montenegro), five reports for which no PDF files were attached, and reports for which no income group could be allocated (one report for Montserrat and two for the Netherlands Antilles).

Chart 2. Number of words in reports published in 2004-2018



Source: prepared by the authors.

Table 2. Statistics describing the number of words in reports from 2004-2018

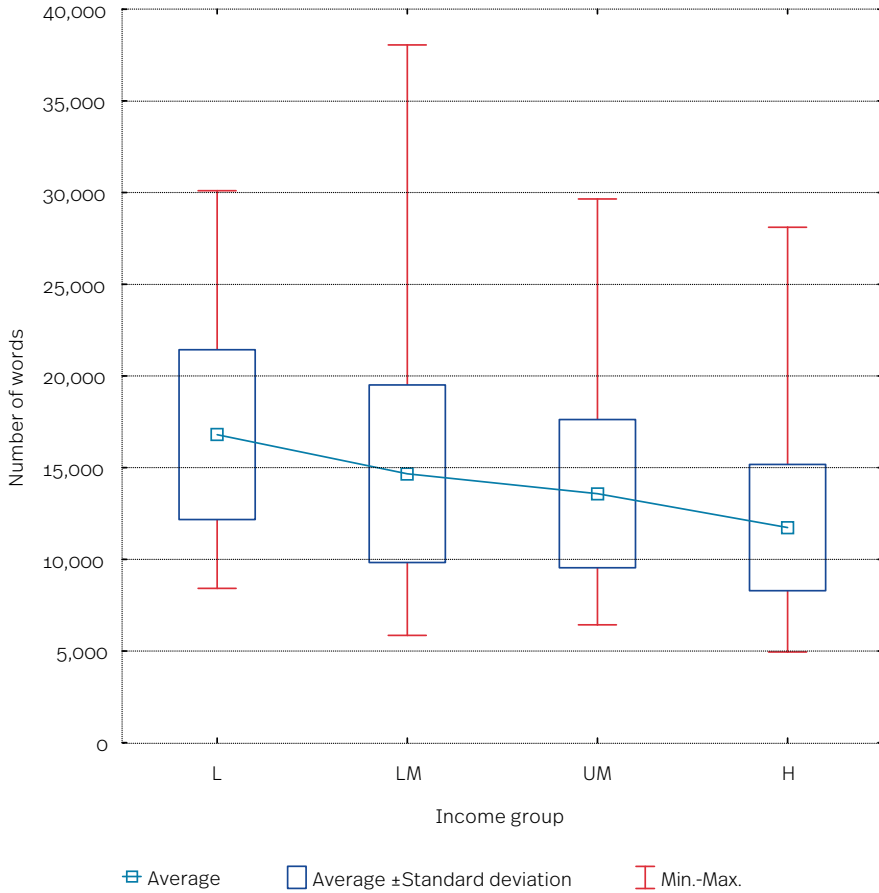
Year	Number of reports	Average	Standard deviation	Coefficient of variation (%)	Minimum	Maximum	Spread
2004	101	12,684.96	4,214.29	33.22	6,646	27,909	21,263
2005	111	12,799.27	4,135.32	32.31	6,235	27,071	20,836
2006	113	12,134.87	3,926.87	32.36	4,979	23,253	18,274
2007	112	11,456.13	3,881.05	33.88	4,948	24,464	19,516
2008	111	11,686.98	3,664.73	31.36	5,746	21,563	15,817
2009	102	12,221.16	4,057.51	33.20	5,568	25,387	19,819
2010	114	12,412.27	3,938.91	31.73	6,290	27,726	21,436
2011	109	12,848.47	4,298.99	33.46	5,867	29,680	23,813
2012	111	14,440.85	4,700.56	32.55	7,534	29,931	22,397
2013	111	14,889.40	4,856.19	32.62	7,637	28,383	20,746
2014	121	14,324.87	4,037.29	28.18	7,135	28,251	21,116
2015	112	14,657.20	4,315.47	29.44	7,183	30,101	22,918
2016	126	16,170.80	4,541.78	28.09	7,931	38,053	30,122
2017	127	16,107.08	4,240.66	26.33	9,760	29,431	19,671
2018	112	16,066.63	4,581.43	28.52	9,546	30,941	21,395

Source: prepared by the authors.

Analysing the number of words in reports on countries divided into income groups shows that the longest reports (in terms of the average word count) concerned low-income countries,

whereas the shortest reports concerned high-income ones (Chart 3). Reports on middle-income countries had the highest variation in the number of words.

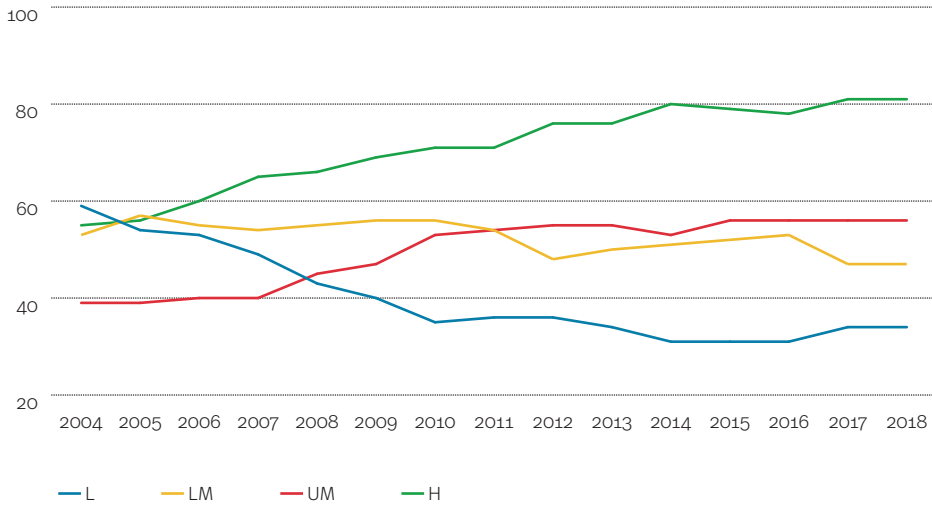
Chart 3. Report word count for countries in each income group



Income:
 L - low-income
 LM - lower middle-income
 UM - upper middle-income
 H - high-income

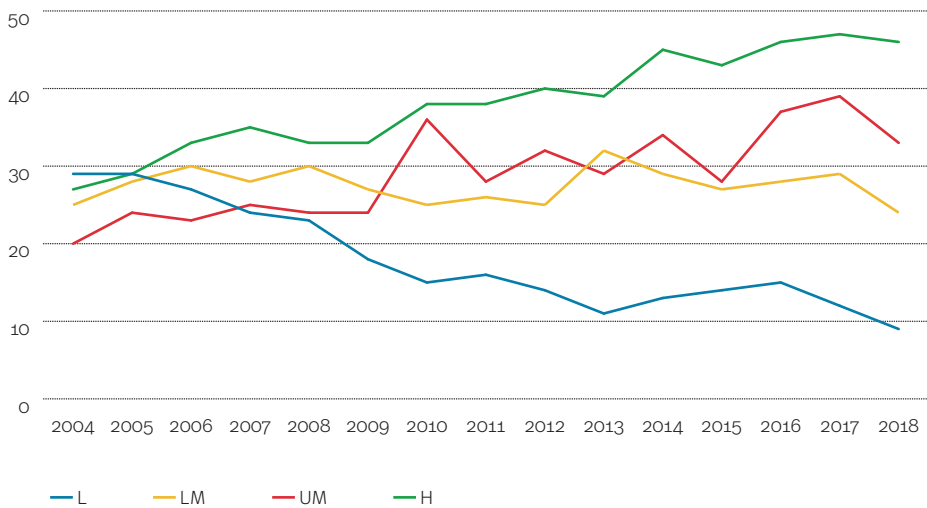
Source: prepared by the authors.

Chart 4. Number of countries in each income group in 2004-2018 (according to the World Bank)



Source: prepared by the authors.

Chart 5. Number of reports for each income group in 2004-2018

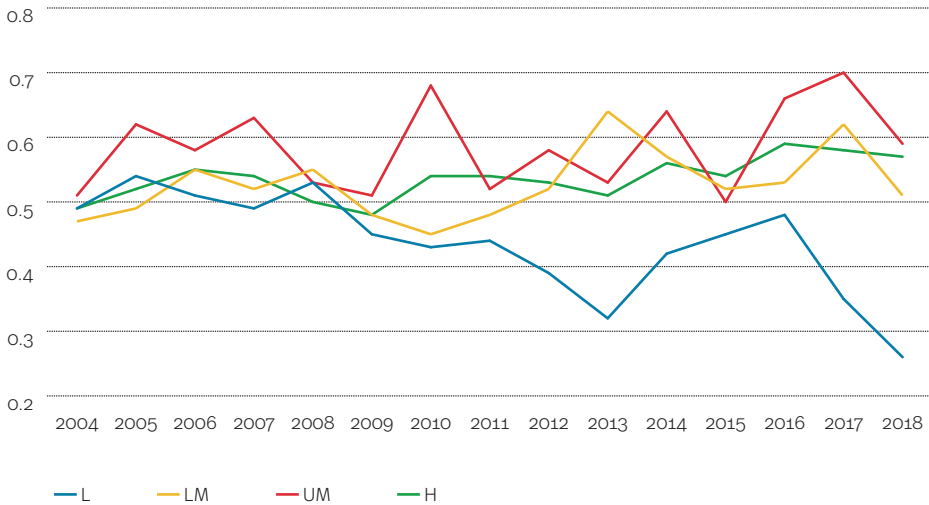


Source: prepared by the authors.

It should be remembered that the number of countries that the World Bank included in each income group changed over the years. As Chart 4 shows, in 2004-2018 the number of high- and upper middle-income countries grew significantly, while the number of low- and lower middle-income countries decreased. It is therefore unsurprising that the number of reports on countries in the latter two groups decreased, too (Chart 5).

It seems worrying that, in the lowest-income countries, the percentage of reports published was much lower than in the other income groups (especially after 2010). For example, in 2014, around 55% of H and LM countries published IMF reports, as did around 65% of UM countries, compared to slightly over 40% of L countries (Chart 6).

Chart 6. Percentage of reports in each income category in 2004-2018



Source: prepared by the authors.

Reconstructing trends in the IMF's priorities in fiscal policy (expansive vs. restrictive) and economic policy (liberal vs. social) required defining sets of keywords beforehand. As Mihalyi and Mate (2018) state, for fiscal policy a vocabulary made up off two collections of words, in which keywords took the form of bigrams, was used. The collection for restrictive fiscal policy contained the following keywords:

→ *Fiscal consolidation: fiscal consolidation, fiscal discipline, restore fiscal, fiscal solvency, fiscal adjustment;*

The collection for expansive fiscal policy contained the following keywords:

→ *Fiscal stimulus: fiscal stimulus, stimulus package, fiscal expansion.*

After adding more keywords (bigrams), this vocabulary was used to reconstruct trends in the IMF's priorities in economic policy. Two

collections of keywords pointing to the prioritisation of liberal or social policy were predefined (Table 3). Based on this vocabulary, the authors calculated the IMF priority polarisation indicator (TPI).

Since IMF reports contain analysis of individual countries' financial systems, the vocabulary created by Correa et al. (2017) was used

to examine the reports' tone. It was designed to analyse the tone of reports on the financial system's stability published by central banks. It contains 391 words, of which 91 have a positive connotation and 295 a negative one. Based on this vocabulary, the authors of this report calculated the tone recommendation indicator (RTI) for the IMF reports.

▾ **Table 3. Keywords (bigrams) concerning economic policy priorities**

Liberal policy	Social policy
fiscal consolidation	fiscal stimulus
fiscal consolidate	stimulus package
fiscal discipline	fiscal expansion
restore fiscal	social welfare
fiscal solvency	social security
fiscal adjustment	social safety
fiscal adjust	social protection
fiscal adjustor	social transfer
fiscal adjustors	social program
consolidation need	social programme
consolidation path	social expenditure
preserve fiscal	social expenditures
progress fiscal	expansionary fiscal
real growth	expansionary policy
GDP growth	sustainable growth
productivity growth	inclusive growth
labor productivity	wage growth
fiscal rule	welfare program
inflationary pressure	improve welfare
reduce inflation	subsidy transfer
debt sustainability	transfer subsidy
debt security	reduce inequality
deficit reduction	reduction inequality
reduce deficit	employment protection
excessive deficit	
investor protection	
(26 bigrams in total)	(24 bigrams in total)

Source: prepared by the authors.

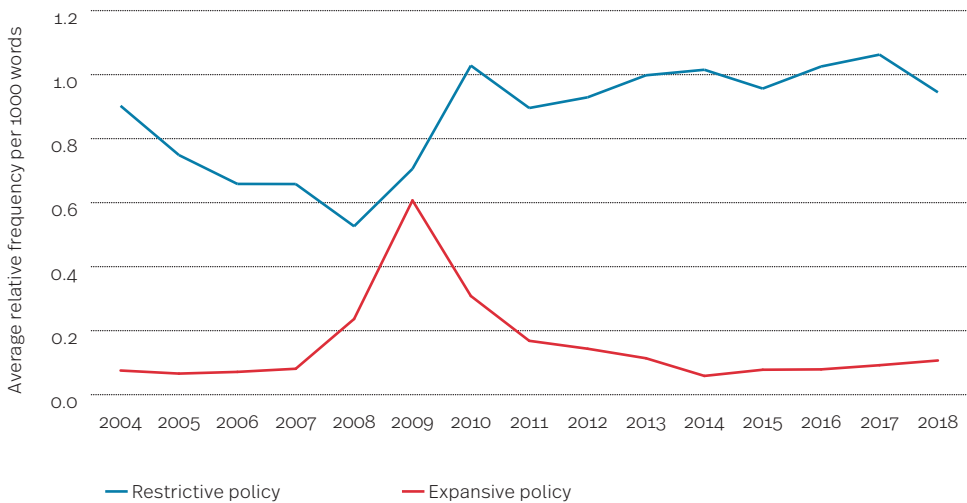
Results: trends in the IMF's priorities and tone of recommendations

First of all, the analysis of the IMF's fiscal policy priorities conducted by Mihalyi and Mate (2018, p. 17) was replicated. To capture the potential difference in the IMF's approach to Poland and other countries, these priorities in separate countries and groups of countries were analysed in detail.

As Chart 7 shows, over the entire period studied, words associated with fiscal

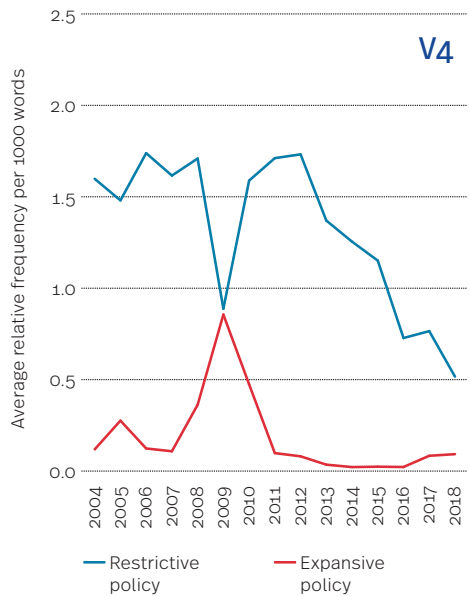
consolidation occurred more frequently in IMF reports. There was only a significant during the financial crisis (2007-2009), when the relative frequency of words associated with fiscal stimulus increased, while the number linked to fiscal consolidation decline. From 2009, there was a return to the long-term trend; once again, the prioritisation of fiscal consolidation began to dominate in the IMF reports.

▼ Chart 7. The IMF's fiscal policy priorities



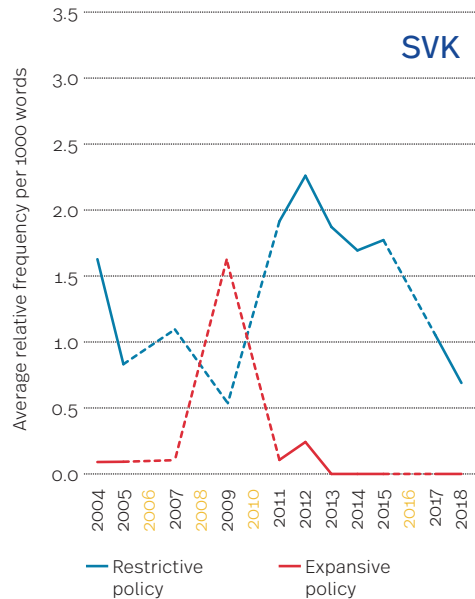
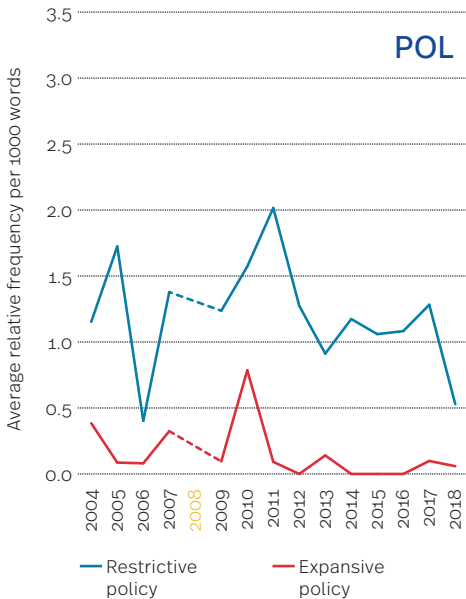
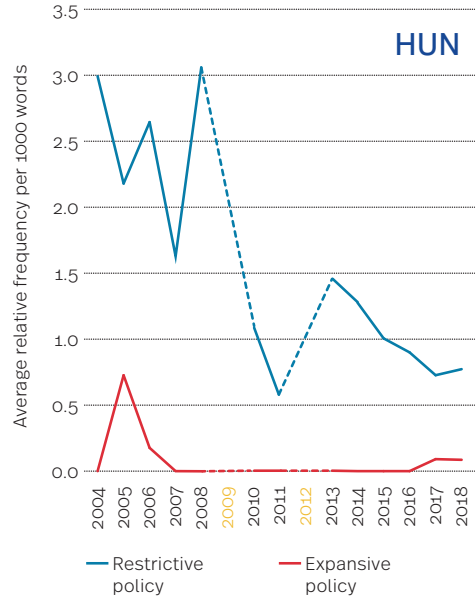
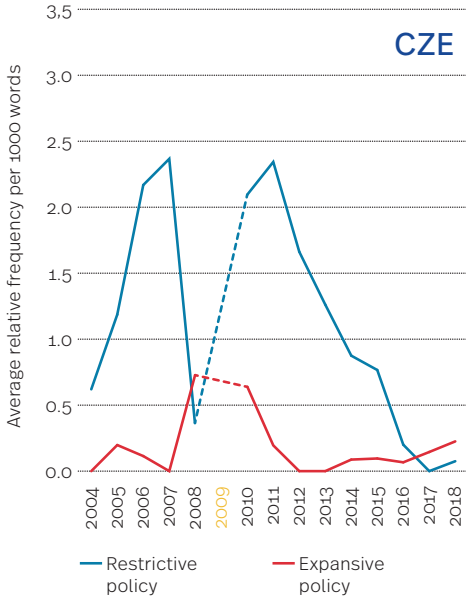
Source: prepared by the authors.

▼ Chart 8. The IMF's fiscal policy priorities by group of countries



Source: prepared by the authors.

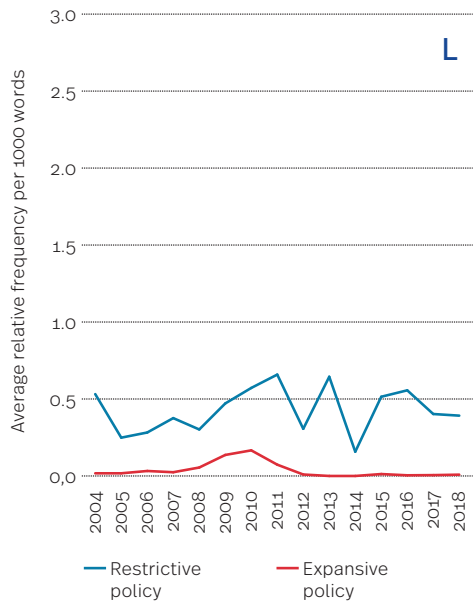
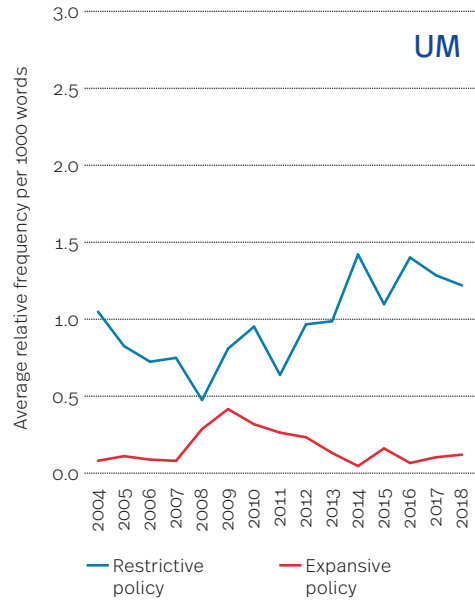
Chart 9. The IMF's fiscal policy priorities in the V4 countries



Note: there is no data for the years marked in yellow.

Source: prepared by the authors.

Chart 10. The IMF's fiscal policy priorities by income group



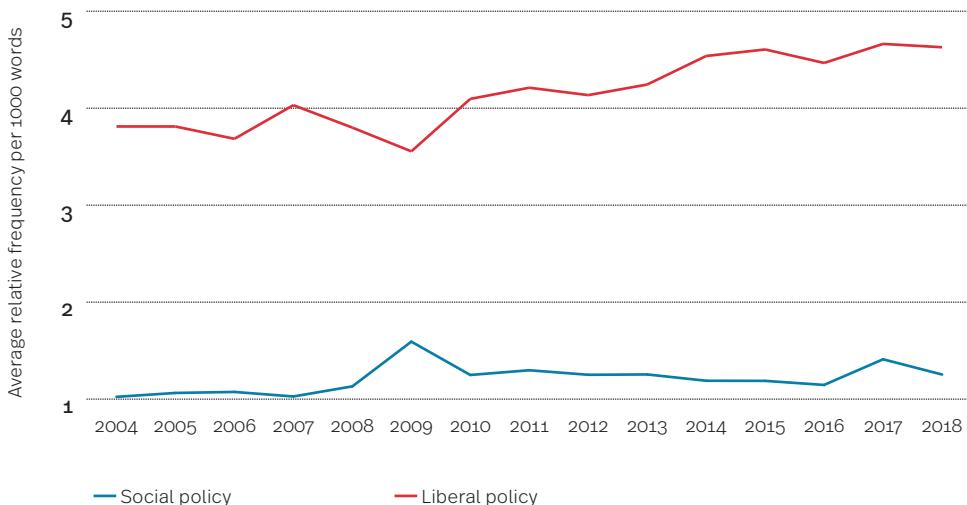
Source: prepared by the authors.

A similar trend occurs in all the country groups analysed, but the shift away from a prioritising fiscal consolidation towards prioritising fiscal stimulus is most visible in the group of 34 OECD countries and is the least visible in the V4 group (Chart 8). Closer examination of the priorities for the V4 countries shows that for Slovakia and, to some extent, the Czech Republic, they correspond to the general trends. In contrast, for Hungary and Poland, the narrative associated with fiscal consolidation dominated in IMF reports, even during the crisis (Chart 9). Comparing the priorities analysed from the perspective of countries' income also leads to interesting conclusions. It turns out that the dominant trend of a decrease in the priority of fiscal consolidation, while that for fiscal stimulus increased, is most visible in the richest countries, while prioritisation of fiscal consolidation continues to dominate in low-income countries during this period, too (Chart 10).

Economic policy

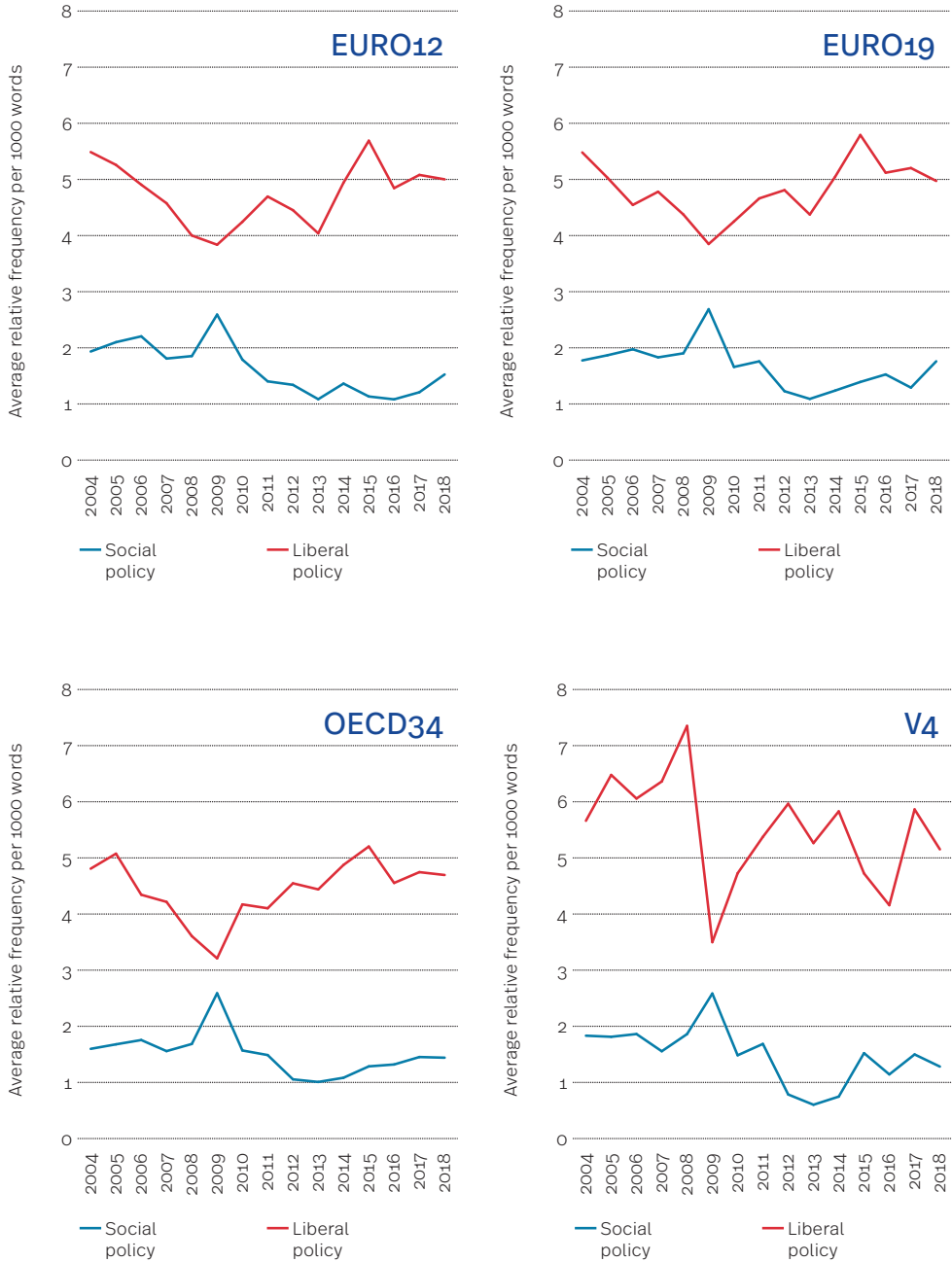
Similar regularities can also be seen for seen when it comes to economic policy priorities (liberal vs. social policy). In this case, the relative frequency of words associated with specific priorities fluctuated during the financial crisis and, as with fiscal policy, returned to their previous size afterwards (Chart 11). There were similar trends in all the groups of countries examined, though the sharpest fall in the prioritisation of liberal policy during the financial crisis is visible in the V4 countries' reports (Chart 12). It turns out that Slovakia and the Czech Republic were mainly responsible for this drop. For Hungary, the prioritisation of liberal policy grew significantly, even during the financial crisis, while in Poland it was clearly higher than in Slovakia (Chart 13). The decreased prioritisation of liberal policy during the crisis is – like the prioritisation of restrictive fiscal policy – most visible in the highest-income countries and least visible in the poorest ones (Chart 14).

▼ Chart 11. The IMF's economic policy priorities



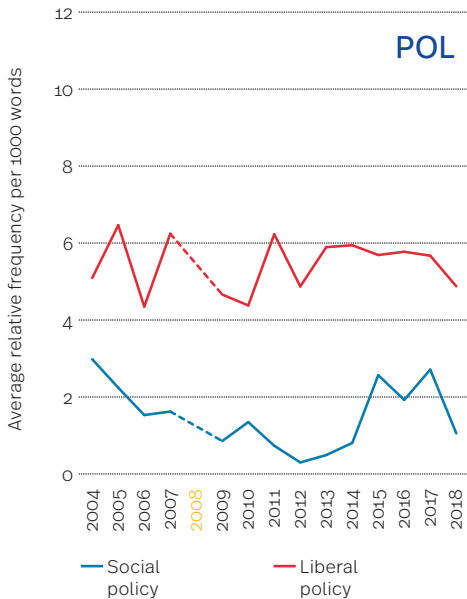
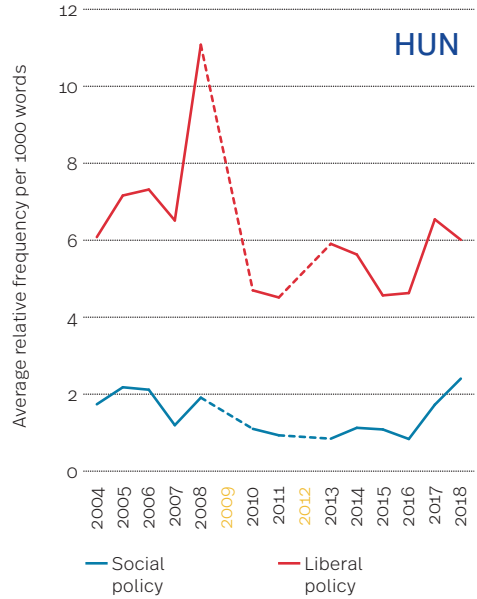
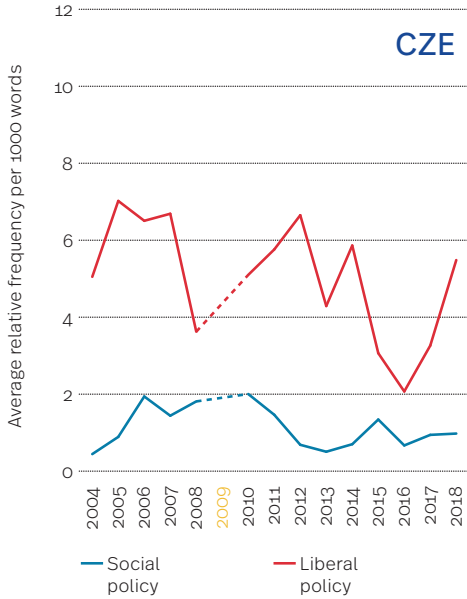
Source: prepared by the authors.

▼ Chart 12. The IMF's economic policy priorities by country group



Source: prepared by the authors.

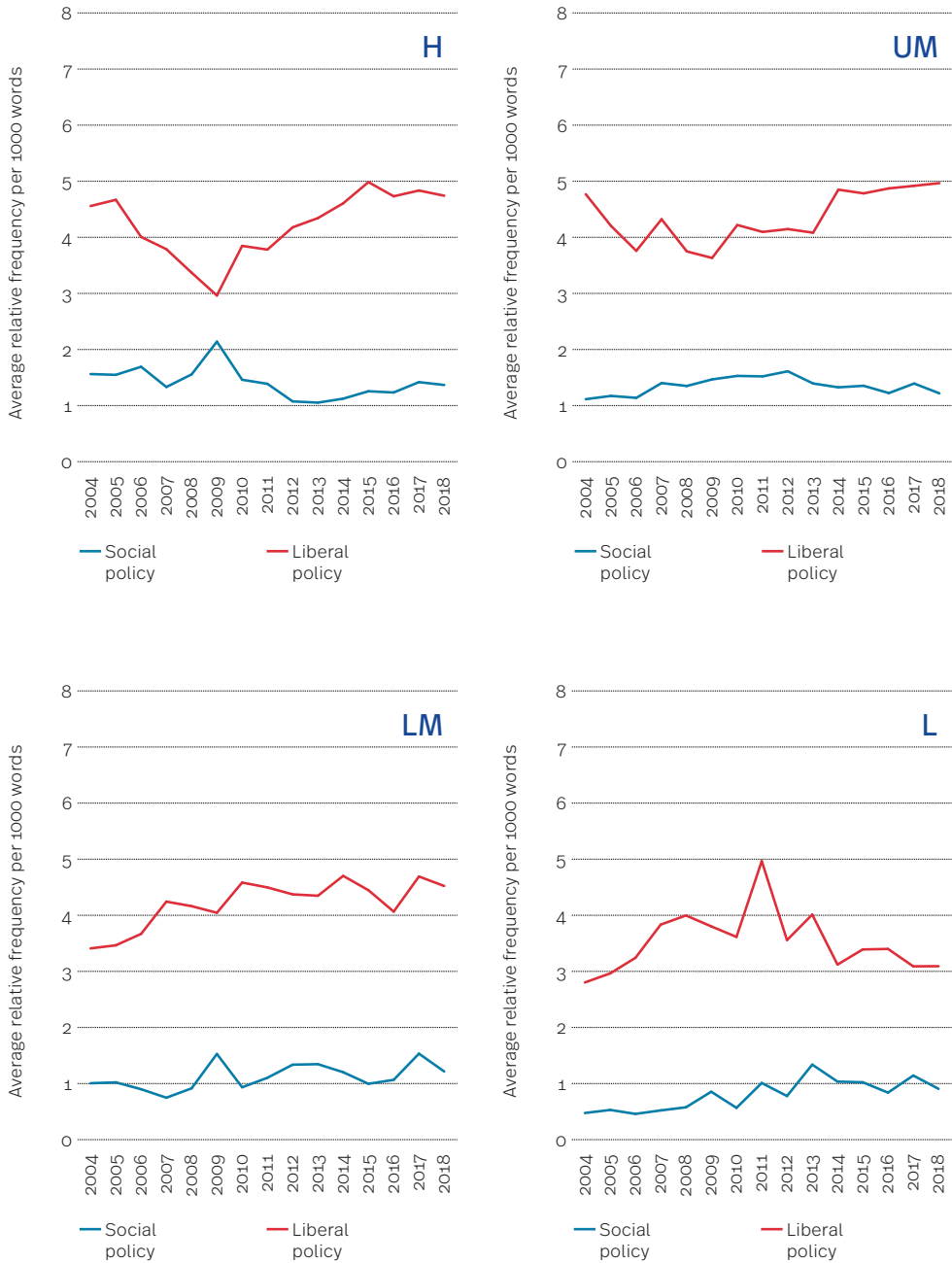
▼ Chart 13. The IMF's economic policy priorities in the V4 countries



Note: there is no data for the years marked in yellow.

Source: prepared by the authors.

Chart 14. The IMF's fiscal policy priorities by income group



Source: prepared by the authors.

Based on analysis of the IMF's priorities when it comes to liberal and social policy (Table 4), an economic policy trend polarisation

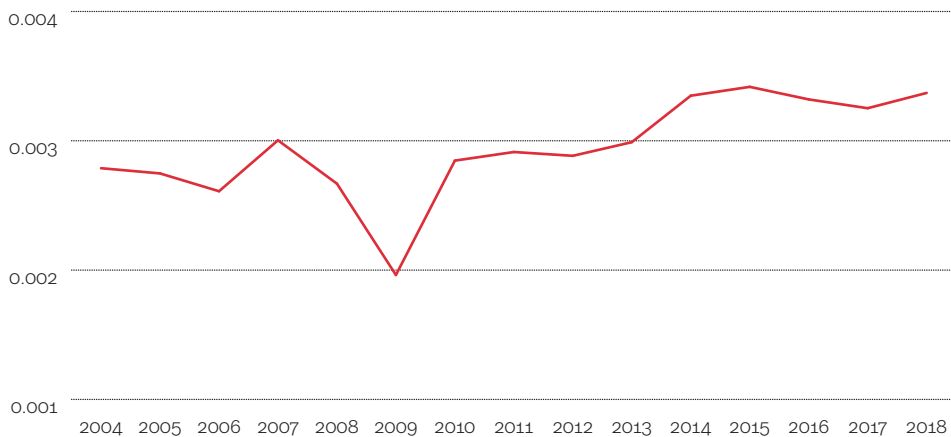
indicator (TPI) was created. It was calculated using the following formula:

$$\text{TPI} = \frac{\# \text{ Words with a liberal connotation} - \# \text{ Words with a social connotation}}{\# \text{ Words overall}}$$

An increase in the TPI indicator means that the IMF's economic policy priority is shifting from social to liberal; the relative frequency of words with a social connotation is declining compared to that of words with a liberal connotation. As Chart 15 shows, this occurred just

before the crisis and, with slight fluctuations, has been happening since 2009, when the biggest drop in the TPI indicator was recorded. The fall in 2007-2009 meant a temporary turn in the IMF's economic policy priorities in its reports, towards a more social policy.

Chart 15. The IMF economic policy trend polarisation indicator



Source: prepared by the authors.

The tone of the IMF's recommendations also changed during the financial crisis, as shown by

the recommendation tone indicator (TRI), which was calculated using the following formula:

$$\text{RTI} = \frac{\# \text{ Words with a negative connotation} - \# \text{ Words with a positive connotation}}{\# \text{ Words overall}}$$

An increase in the RTI indicator means that the frequency of words with a negative connotation relative to ones with a positive connotation has increased, which entails a deterioration in the IMF reports' tone. As Chart 16 shows, the

reports' tone worsened significantly in two periods: the first began in 2007 and ended in 2009, and the second took place in 2011. Since then, the tone of the reports analysed has become more positive every year.

Chart 16. The IMF recommendation tone indicator



Source: prepared by the authors.

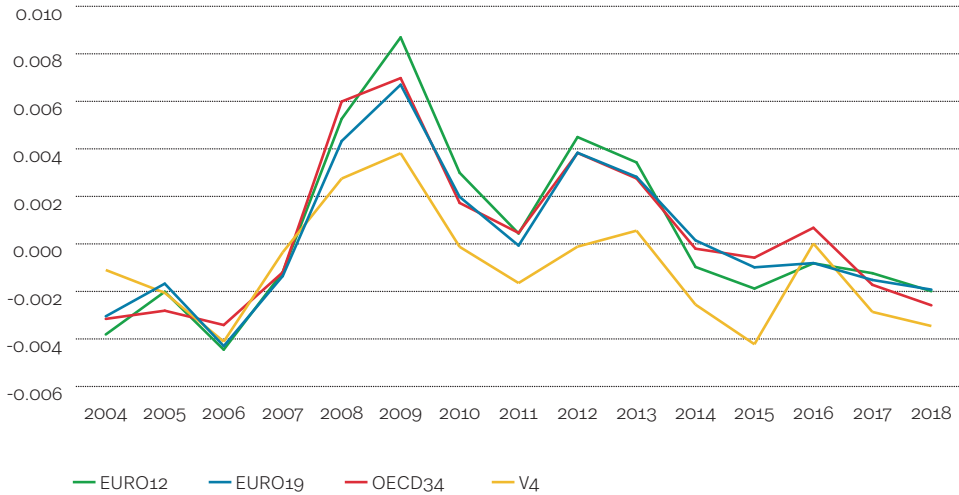
A similar regularity for the RTI indicator was observed in all the country groups analysed (Chart 17). When it comes to the V4 group, during the financial crisis recommendations for the Czech Republic had the most negative tone. The tone in reports on Hungary became more negative in 2008-2011. The RTI trend for Poland and Slovakia was different. In both countries, the trend improved from 2009 to 2011, but later the tone for Poland worsened sharply and then improved gradually. For Slovakia, the tone kept deteriorating gradually (Chart 18). As expected, the greatest deterioration in the tone of recommendations during the financial crisis concerned the richest countries (Chart 19).

Comparison of the TPI and TRI's values shows that the increase in the reports' negative tone corresponds clearly with increased

prioritisation of social policy and, *vice versa*, an improvement in the recommendations' tone goes hand in hand with increased prioritisation of liberal policy (Chart 20). It cannot be concluded, however, that the IMF's experts have a negative attitude towards social policy and a positive one towards liberal policy. The relationship observed merely reflects how, during the financial crisis, the reports' tone worsened (they contained relatively more words with a negative connotation) and the prioritisation of social policy increased (there were relatively more words associated with this type of policy) simultaneously. Based on the analysis conducted, the tone cannot be linked to a concrete type of policy, though. The changes in the TPI and RTI trends observed correspond with changes in global GDP growth (Chart 21). In particular, the recommendation

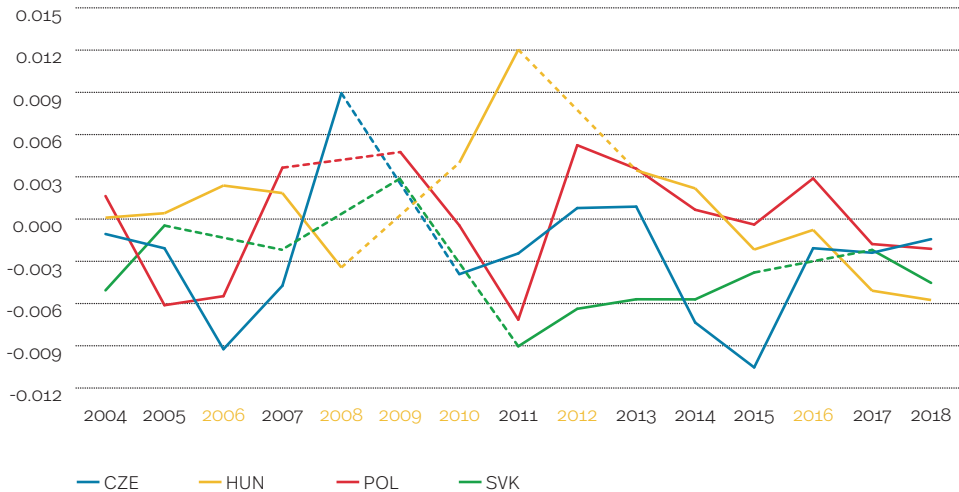
tone indicator (RTI) is negatively correlated with the rate of GDP growth. A certain positive correlation between TPI and GDP is visible, too (Table 4).

Chart 17. The IMF recommendation tone indicator by group of countries



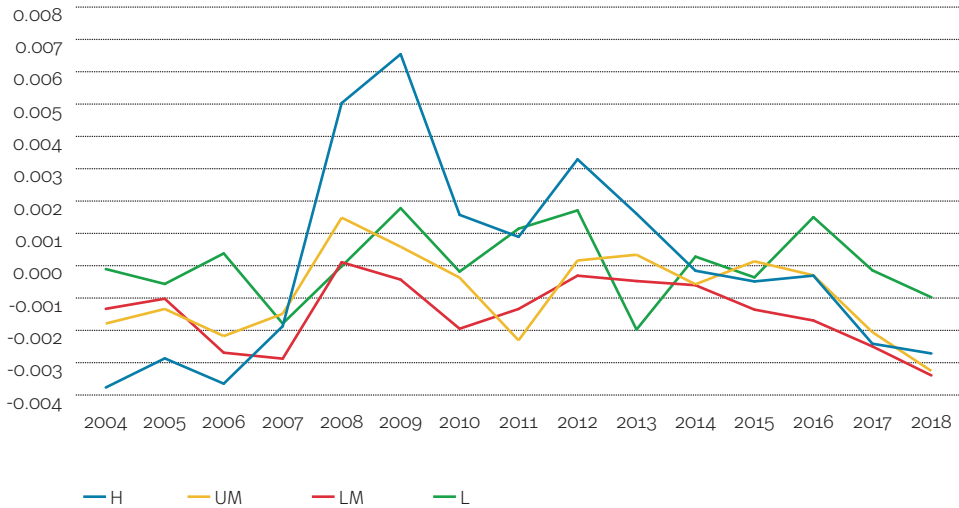
Source: prepared by the authors.

Chart 18. The IMF recommendation tone indicator in the V4 countries



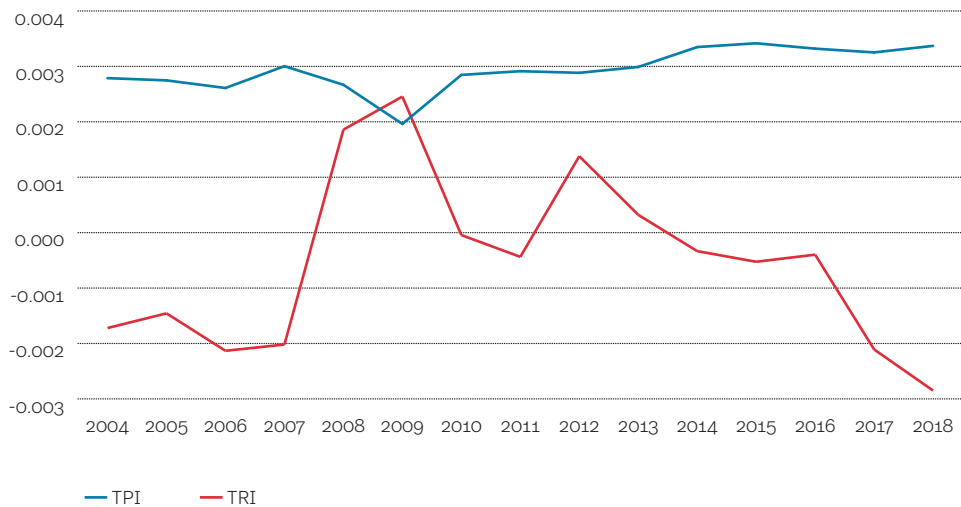
Note: there is no data for the years marked in yellow.
Source: prepared by the authors.

Chart 19. The IMF recommendation tone indicator by income group



Source: prepared by the authors.

Chart 20. A comparison of the TPI and RTI indicators



Source: prepared by the authors.

Table 4. Normalised cross-correlation of TRI, TPI and GDP indicators

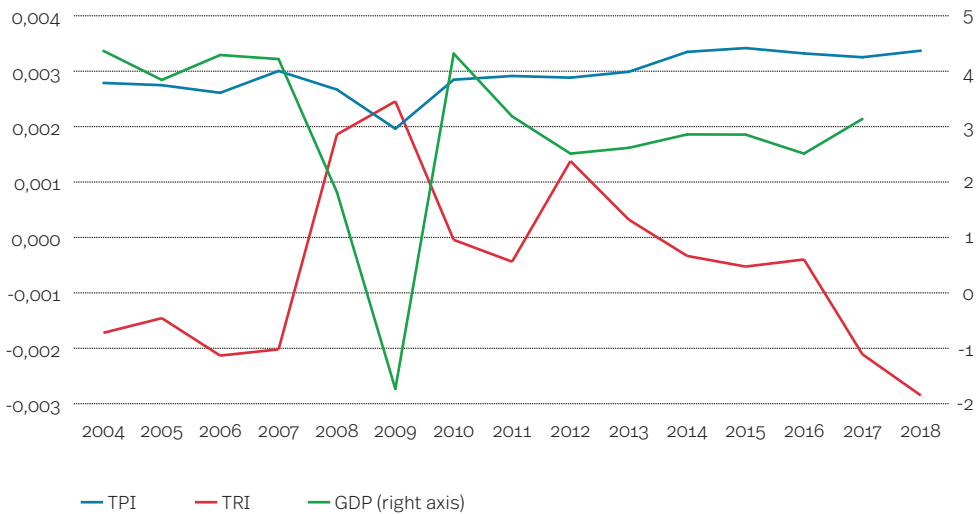
Indicator	TRI	TPI	GDP
TRI	1		
TPI	-0.509	1	
PKB	-0.7	0.456	1

Source: prepared by the authors.

The analysis also drew attention to the very rare occurrence of words such as “sustainable development”, “inclusive growth” and “income inequalities”. The latter term did not

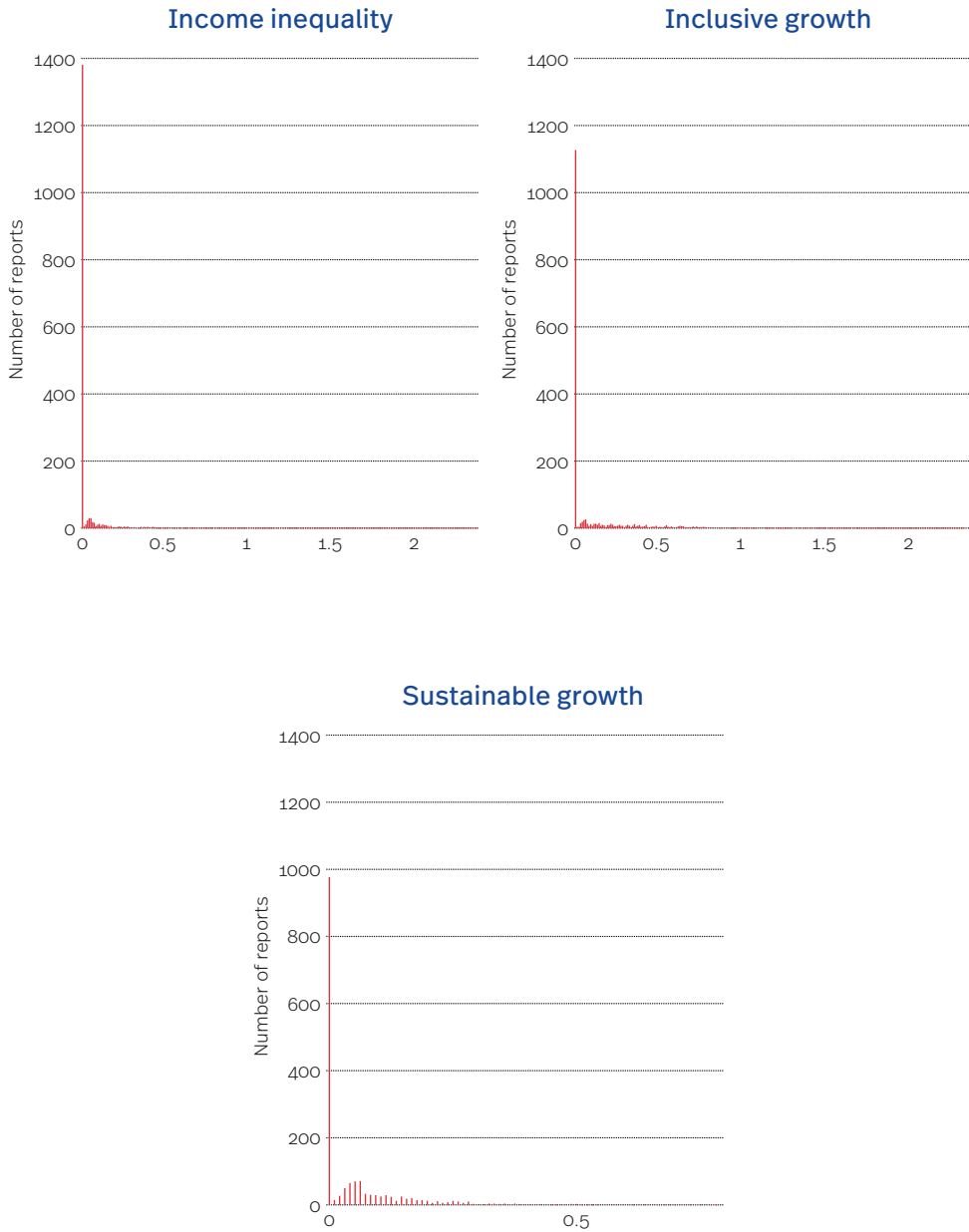
appear at all in over 1200 reports (Chart 22). The term “inclusive growth” only appeared increasingly frequently in reports on low-income countries (Chart 23).

Chart 21. A comparison of the TPI and TRI indicators with the rate of global GDP growth



Source: prepared by the authors.

▼ **Chart 22.** How frequently selected words appear



Source: prepared by the authors.

Chart 23. How frequently the terms “sustainable development” and “inclusive growth” appear in different income groups



Source: prepared by the authors.

Discussion of the results

Two hypotheses were presented at the start of this working paper. Firstly, it was expected that the economic policy priorities in IMF reports would evolve from more liberal to more social, with the financial crisis of 2008-2009 as the turning point. Secondly, it was expected that trends in the IMF's priorities will differ between different groups of countries, primarily distinguished by their incomes.

The results partially confirm the first hypothesis, at most. Indeed, a liberal attitude to economic policy and the prioritisation of restrictive fiscal policy dominated before the crisis. Moreover, as expected, the financial crisis changed the IMF's priorities significantly. During the crisis, the tone of recommendations worsened significantly (there were relatively more words with a negative connotation in them), while social economic policy and expansive fiscal policy became more of a priority (the relative number of words associated with these types of policies increased). However, there was a rapid return to the trends from before the crisis. The move away from prioritising restrictive fiscal policy and liberal policy was short-lived. The IMF's recommendations may have reflected the radical turn towards Keynesian policy among economists during the financial crisis and the equally sudden breakdown of that consensus after 2010.¹³

The confirmation of the second hypothesis is more explicit. The priorities in the IMF reports do vary based on countries' income group. The patterns observed point to greater prioritisation of expansive fiscal policy and, more broadly,

social economic policy in high-income countries. This became especially clear during the financial crisis of 2008-2009. Different priorities dominated in reports addressed to the V4 group, especially Poland and Hungary. These differences in priorities may result from the fact that the highest-income countries were the most affected by the financial crisis, which made it necessary to counter the consequences of the crisis using expansive fiscal policy.

The analysis provided one more important piece of information: the low prioritisation of issues like inclusive or sustainable growth and income inequality in IMF reports. Bigrams such as "sustainable growth", "inclusive growth" and "income inequality" occurred very rarely. This may suggest a discrepancy between the IMF authorities' statements and its recommendations for specific countries or delays in incorporating declarations by the IMF authorities into research practice linked to expert teams' work. For example, in one of her speeches, Christian Lagarde, the IMF's managing director in 2011-2019, stated that reducing excessive inequality by lifting the "small boats" is not only morally and politically right, but also economically justified (Lagarde, 2015). Jonathan Ostry, deputy director of the IMF's Research Department, stated that too much inequality hampers economic growth, which gives the institution the grounds to promote sustainable growth in member countries. He drew attention to how the level of economic inequality in a country also depends on decisions concerning macroeconomic policy and the structural reforms that the IMF formulates

¹³ The sudden emergence and collapse of the new Keynesian consensus was explained by Farrell and Quiggin (2017), who point to the specifics of the economic profession in which the search for prestige and recognition and its connection to economic policy plays an important role.

its recommendations about. In Ostry's view, this means that IMF experts should be aware that their recommendations will have specific distribution effects, such as increasing inequality (Ostry, Loungani, Berg, 2019). When this awareness is compared to the attention devoted to inequality and sustainable development, expressed in words' relative frequency, it turns out that it is not very present in IMF reports.

The hypothesis pointing to a discrepancy between economic theory (too much inequality is harmful for economic growth) and the IMF's recommendations, which ignore this issue, echoes the general conclusions of other studies of IMF recommendations formulated as part of Article IV. Analysing IMF reports for developing countries from 2010 in detail, Roy and Ramos (2012) noticed that, to a significant extent, the recommendations do not reflect the latest economic knowledge or the position expressed by the IMF's management or its research. Furthermore, differences in the

tone of recommendations for a specific country may result from the character of relations between the IMF expert team's mission and the country's authorities. They are often linked to a country's place in a specific income group. Reports for middle-income countries were better suited to national conditions and needs, which may result from the IMF paying greater attention to bigger economies that have a greater impact on others. For smaller economies, a situation in which the IMF conducts less in-depth analysis of domestic macroeconomic factors may result in inappropriate recommendations. Moreover, discussions on recommendations between the IMF's expert team and the national authorities are presented more often in reports on middle-income countries. In contrast, reports on low-income countries usually do not include the national authorities' opinion. If they do, they mainly aim to show the lack of consensus, rather than to justify the national authorities' stance.

Summary

This working paper analysed reports published as part of Article IV of the IMF's Articles of Agreement in 2004-2018 to reconstructed trends in the priorities in IMF reports and the tone of recommendations for countries or groups of countries.

To reconstruct the IMF's priorities concerning liberal or social policy, an economic policy trend polarisation indicator (TPI) was developed. The increase in TPI observed shows that the IMF's economic policy priority is moving from social to liberal. This is visible in the more frequent use of two-word terms (bigrams) associated with liberal economic policy in the reports analysed. After analysing how often selected words were used, it was concluded that inclusive or sustainable growth and income inequality are low-priority in IMF reports. It was found that the term "inclusive growth" is being used more often for low- and lower middle-income countries. These results suggest a **discrepancy between the IMF authorities' statements and its recommendations for specific countries or delays in incorporating declarations by the IMF authorities into research practice linked to expert teams' work.**

To reconstruct the tone of the IMF's recommendations, a recommendation tone indicator (RTI) was developed. An increase in its value means that the relative frequency of words with a negative connotation is increasing compared to that of words with a positive connotation, which entails a deterioration in the tone of the IMF's recommendations. Based on the analysis, it was concluded that the tone of recommendations worsened significantly during two periods: the first began in 2007 and lasted until 2009 (the financial crisis) and the second took

place in 2011. Since then, the tone of recommendations has become more positive each year. The results of these analyses and other research also suggest that the differences in the tone of recommendations may result from the character of the relationship between the IMF's expert team and the national authorities. This concerns differences in the extent to which the national authorities were consulted about the content of the report and to which their opinion was included in the report. **The research indicates that, for low-income countries, the national authorities are consulted (and their opinion is included) to a lesser extent.**

Finally, to contrast the IMF's reports' priorities and the tone of its recommendations with changes in economic activity, the TPI and RTI indicators were compared with the rate of global GDP growth. It turns out that RTI is quite strongly correlated with the GDP growth rate, so it is perhaps worth considering using the tone of the IMF's recommendations as an indicator preceding the economic climate.

As part of further research based on IMF reports prepared as part of Article IV of the IMF's Articles of Agreement, the following areas are particularly worth examining:

- € analysing the tone of sets of sentences in the reports that contain words relating to fiscal, monetary and structural policy, competitiveness and the financial sector;
- € analysing the relationship between the tone of the IMF's recommendations as part of Article IV for individual countries and economic climate indicators in specific countries or groups of countries that

differ from the global rate of GDP growth (ahead of it, parallel or delayed);



using the economic policy trend polarisation indicator (TPI) to preselect countries whose reports are worth having

experts analyse in detail. The reports of countries for which the TPI diverges from general trends are especially worth analysing.

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