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The International Monetary Fund's interventions in food and agriculture: An analysis of loans and conditions

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ABSTRACT

The mandate and competence of the International Monetary Fund (IMF) does not cover food and agriculture policies. While there is anecdotal evidence that the IMF engages in these policies regardless, the state-of-the-art lacks a systematic empirical foundation to identify the extent of its mission creep into these sectors. Based on a combination of machine and human coding, we present a comprehensive database on the IMF's policy interventions in food and agriculture. Using new data on 'conditionalities'—policies that governments must implement to access IMF credit—we assess to what extent the IMF has targeted these sectors for the period 1980 to 2014. Our analysis evaluates the agricultural content and ideological orientation of conditions according to whether they promote a developmental state, a night-watchman state, or neither. We find about 2% of all IMF conditions (1105 of 58,406) directly target food and agriculture issues. These are present in 43% of all IMF programs (332 of 781); and affect 100 countries (of the 131 countries that have had an IMF agreement). In addition, our analysis reveals that 59.2% of these conditions embody policy measures in line with night-watchman state policy preferences, 40.1% are model-neutral, and 0.7% developmental. Within the model-neutral category, 23.9% are conditions oriented towards building state capacity; 2.7% have a poverty reduction content; and 2.9% contain pro-environment policies. The IMF's primary reason for targeting food and agriculture is to enforce fiscal discipline by removing subsidies, yet our analysis identifies that only 8% of these policies abolish subsidies. A more consistent explanation of the IMF's interest in food and agriculture is its broader mission creep into development policy, and its deep-rooted pro-market ideology.

1. Introduction

> "Bread coupons will be abolished and the price of bread will be liberalized." Armenia, 28-Jun-1995, (IMF, 1995a).
> "Privatize … or liquidate all state farms," Albania, 14-Jul-1993, (IMF, 1993a).
> "Complete liquidation of the Bolivian Agricultural Bank…" Bolivia, 27-Jul-1988 (IMF, 1988a).

Major events such as the global 2008 food crisis exposed some of the weaknesses of the international trade system. The crisis challenged the structural capacity of the system to feed the world population. This system's strained capacity and slow adaptability supplied additional energy to the policy debate on food sovereignty and the efficiency of economic globalization of agricultural trade (Laroche Dupraz and Postolle, 2013). Yet, the literature lacks a systematic empirical foundation to evaluate the role played by powerful international financial organizations in fueling the liberalization of agricultural policies.

This article presents a comprehensive database on the International Monetary Fund's conditionality, available online as supplement files (Daoud, 2018a). Drawing on previous research (Kentikelenis et al., 2016), we isolated conditions related to food and agriculture using a combination of dictionary-based text (machine) mining and qualitative (human) content analysis (Grimmer and Stewart, 2013). We apply this methodology to a novel database that locates over 4500 loan-related documents and identifies 58,406 conditions affecting all types of sectors

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of 131 countries during the period 1980–2014. Rather than assuming IMF programs deliver homogenous policy effects on agriculture, this new dataset unpacks the heterogeneity of IMF conditions across time and space. This dataset enables scholars to provide more nuanced and fine-grained analyses of IMF operations than what has been produced thus far (Fiebiger, 2014).

Another key contribution of this article is to mobilize this data to provide historical stylized facts of the IMF's operations in this sector. For future research, our work enables scholars to investigate the causes and effects of agricultural conditionality vis-à-vis other key issue areas, such as public health, poverty, food riots, food price inflation, food security, urbanization, and land grabbing (Bohstedt, 2016; Conklin et al., 2018; Daoud et al., 2017, 2016; Daoud and Reinsberg, 2018; Kentikelenis, 2017; Liao et al., 2016; Nandy et al., 2016; Nyantakyi-Frimpong and Kerr, 2017; Ponce et al., 2017). While the frontier of international political economy offers insights on the World Bank's involvement in food and agriculture (Clemens and Kremer, 2016; Ellis and Biggs, 2001; Gibbon et al., 1993), it is relatively silent on the IMF's operations (Bienen and Gersovitz, 1986; Walton and Seddon, 1994).

The article contributes to scholarship by focusing on food and agricultural policies in developmental versus night-watchman states, in a historical perspective. Governments in several developing countries tend to protect their food and agricultural sectors from global market forces (Laroche Dupraz and Postolle, 2013). These governments argue that they require protectionist strategies to provide for their populations to reduce food insecurity, and to modernize their agricultural industries (Cline, 2004; Daoud, 2017; FAO, 2003; Stiglitz, 2003; WTO, 2004). Governments possess an array of policy tools to achieve these goals: setting up state-owned farms to grow the stock of food; regulating food prices to combat inflation; establishing agricultural banks to facilitate capital investments in farming; or imposing import and export tariffs and quotas to benefit their domestic markets. These policy tools belong to what is known as a 'developmental state' strategy (Johnson, 1982). The essence of a developmental state consists of government-led programs that seek to transform the domestic economy to produce more value-added goods and services than before. At a global level, the government attempts to upgrade its economy in the international division of labor toward more high-tech sectors (Chang, 2014; Saraswati et al., 2013; Woo-Cumings, 1999). The strategy revolves around using a state's capacity to navigate a country's development, rather than relying on the tides of markets alone. However, little is known about how effective these developmental strategies are in forming a reliable food and agricultural system—from food security to economic growth. Also, the developmental state literature has focused on middle- and low-income countries' industrialization efforts, and devoted less attention to the agricultural sector in a historical perspective. Looney (2012) notes on Korea, Taiwan and China that, "the developmental state literature… generally ignores the role of the state in rural development […and has] paid very limited attention to the rural sector" (pp. 1–2, 30–31). The present study contributes to addressing these knowledge gaps.

The counter-image to the developmental state is the 'night-watchman state' (Friedman, 1982). This state model is predicated on a libertarian political philosophy, which focuses on protecting and expanding individual economic freedoms and enforcing property rights. State intervention is justified only on the grounds of correcting market failures. The overarching goal of this philosophy is to boost market activity, and thus, eradicate poverty through economic growth. Infused by this philosophy, a set of free-market policies, known as the 'Washington Consensus', gained momentum in the 1980s (Williamson, 1990). These policies include macroeconomic stabilization, privatization, liberalization, and deregulation (Summers and Pritchett, 1993). Among the key advocates of the Washington Consensus are the Bretton Woods Institutions—the International Monetary Fund (IMF) and the World Bank (Babb, 2013; Babb and Kentikelenis, 2017; Henisz et al., 2005; Kentikelenis and Seabrooke, 2017; S. Nelson, 2014; Reinsberg et al., 2018; Williamson, 1990). They argue that state-led modernization programs, subsidies, and interventions are not only costly but also market distortionary, leading to inefficient allocation of resources (Summers and Pritchett, 1993).

While scholars have engaged in extensive conceptual debates about the efficacy of developmental versus night-watchman state policies, they have struggled to systematically evaluate their hypothesized causal relationships empirically. To conduct such evaluations they required transparent databases, which have thusfar been lacking. We supply such data, enabling scholars to push the research frontier forward.

The IMF, along with the World Bank, occupies a unique position in the global community because it can directly affect the policy space of developing countries (Dreher, 2009). Borne out of the Bretton Woods Conference of 1944, the IMF's mandate is tailored towards monitoring and supporting governments on macroeconomic issues. Its goal is to uphold global financial stability, which includes acting as a lender of last resort to governments in fiscal crises. Through its conditional lending programs, the IMF promoted pro-market policies (Chang, 2006; Stiglitz, 2003; Vreeland, 2003; Woods, 2006). Unlike the World Bank, the IMF's mandate does not include food and agricultural issues. Yet, in practice these sectors have not been exempt (Berazneva and Lee, 2013; Klomp, 2014; Walton and Seddon, 1994). IMF representatives claim that the organization occasionally includes food and agriculture reforms if they are critical for achieving macroeconomic stability, but that "this is rare" (Plant, 2008) because the IMF lacks competence on these issues (IMF, 2008a). We scrutinized the IMF's research units—mainly, Poverty and Inequality, Energy and Environmental Economics, Development Economics—and none of the researcher of these units list food and agriculture as their area of expertise.[1] Two fundamental questions arise: how often has the IMF included loan conditions on food and agricultural policies, and what is the content of such policies?

Hence, this article aims to answer these two questions. First, we ask to what extent the IMF targets food and agriculture with its conditional lending programs. Extensive targeting provides evidence for what is called *mission creep,* or *organizational slippage*: spreading of organizational activities away from their original mandates (Babb and Buira, 2005; Einhorn, 2001; S. C. Nelson, 2014). Many scholars suggest that the IMF's policies have moved beyond its core mandate of macroeconomic issues and into new substantive areas—driven by global forces such as economic crises or domestic interests—which challenge governments' national sovereignty (Stiglitz, 2003, p. 45). Thus, this article examines IMF food and agriculture conditionality in terms of the breadth and depth of such policy conditions across time and space.

Second, we examine the ideological orientation of agricultural conditions in terms of night-watchman versus developmental state policies. It is well known that the IMF's policies, since the 1980s, embody the Washington Consensus agenda. However, partly motivated by critique of its operations, the IMF has sought to rebrand itself (Kentikelenis et al., 2016; Rodrik, 1997). This warrants an investigation into the evolution of the content of IMF policies (Serra and Stiglitz, 2008; Williamson, 2003). To what extent has the IMF's policies shifted towards building state capacity, transparency, and social safety nets rather than mainly promoting market-oriented policies? This quantification forms a stepping-stone to future research on the links between worldwide agricultural developments, economic globalization, and IMF conditionality (Daoud, 2007).

We structure the article as follows. In the next section, we describe our data and methodology for evaluating the policy orientation of each condition (Section 2). We subsequently examine the frequency, content, history, and geography of these conditions (Section 3). Then, based on this evidence, we theorize about the IMF's motivation to engage in agriculture (Section 4). We conclude with a discussion on promising avenues for future research (Section 5).

[1] This webpage analysis was conducted during year 2017 and 2018.

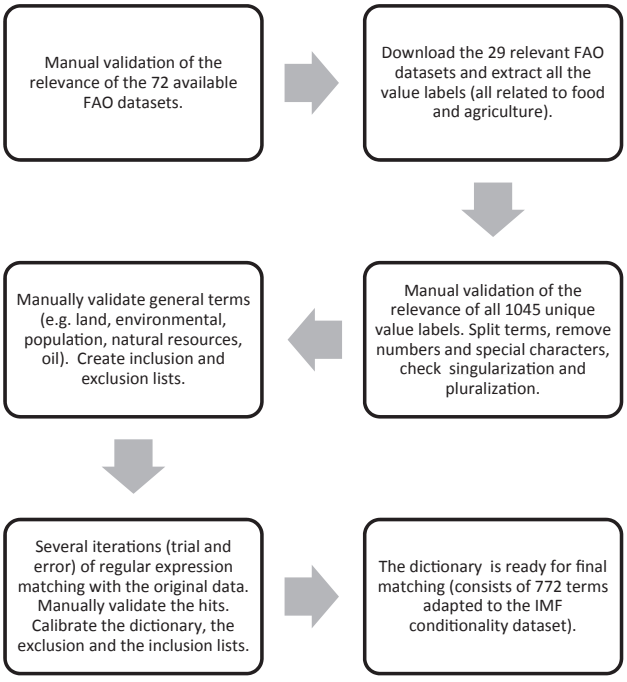


Fig. 1. Constructing the food and agriculture dictionary. *Notes*: We constructed the FAO dictionary as a measurement instrument to identify food and agricultural conditions in the IMF conditionality corpus. This figure describes the workflow of producing this dictionary.

2. Research design

Our methodological approach has two key components. First, we used machine coding based on a dictionary method to identify IMF conditions related to food and agricultural issues. Second, we conducted a human qualitative coding of the content of these conditions. The purpose of the human coding was both to validate that the machine coding yielded plausible matches and to evaluate the policy content of each condition.

2.1. Design of the machine coding

The first part of our machine coding consisted of developing a list (dictionary) of words and phrases relating to food and agricultural issues. We compiled this dictionary based on Food and Agriculture Organization of the United Nations (FAO) terminology. We chose FAO as it is an external source—independent of the IMF or academic discourse—and is the leading global authority on food and agricultural issues.

Fig. 1 outlines how we constructed the dictionary, call it *D*. FAO maintains 72 datasets in its area of interest.[2] We screened these datasets, identifying those that contain concrete nouns (e.g. apples, milk, sugar), and relevant abstract nouns (e.g. agriculture prices, labor force survey, population census, agriculture employment). We identified 29 datasets that contained 1045 value labels. Table S3 in the supplementary material section lists all these 29 sources. The value labels contained in these datasets comprise our set of candidate terms for our dictionary. We further processed these terms by removing numbers and special characters, and adding singularized and pluralized relevant terms. We manually and iteratively, by trial and error, validated the relevance of all terms against the IMF corpus. Our final dictionary distilled down to 772 unique terms, *t*. In a compact set notation, we write, $D = \{t_1,\ldots t_k\}$, where the index 1 through *k* indicates the number of validated FAO terms in the dictionary, *D*.

The second part of our dictionary-based method consisted of identifying an all-encompassing IMF corpus database on which to apply the dictionary. While several datasets exist on IMF programs (e.g. Vreeland, 2007), only the IMF's Monitoring of Fund Arrangements database (MONA) offers disaggregated information about the content of these programs. However, MONA has been shown to be incomplete and biased (IEO, 2007). Kentikelenis et al. (2016) sought to correct these shortcomings by creating a comprehensive database of IMF conditions based on relevant archival material on the IMF's lending operations. Their data are derived from 4500 IMF documents and include 58,406 conditions across 131 countries. We thus apply the dictionary to the text of the conditions included in that dataset.

Fig. 2 describes the process of how we prepared the IMF conditionality corpus (call it *C*). We used standard cleaning procedures in text mining (Jockers, 2014), by removing numbers and special characters as those do not carry qualitative meaning.[3] The corpus was then searched for cases (conditions) that contain ambiguous terminology (polysemy,[4] homonymy,[5] synonymy). In particular, we looked for dubious cases such as: land,[6] organic,[7] camel,[8] oil,[9] among others. We manually created exclusion and inclusion lists both for the cases (conditions) and terms (words), judged on how they matched to conditions. This procedure resulted in a document-term (in our case, conditionality-word) matrix, where each type of condition, c_p, is represented as a vector of words w_{pz}. The index *p* captures the number of conditions in the corpus, *C*, and *z* captures the number of words in each condition.

When both the dictionary and the IMF corpus were ready, we finalized the machine-driven analysis by applying our calibrated search function, *f*,

$$f(c_p) = \begin{cases} 1, & if \quad w_{pz} \in D \\ 0, & if \quad w_{pz} \notin D \end{cases}$$

This function checks whether any of the words, w_{pz}, in an area of conditionality, c_p, appear in the FAO dictionary, *D*. If there was at least one matching word with a dictionary term, *t*, then that conditionality was given a value of one and filtered for further human coding. If no words matched an area of conditionality, then we declared that condition as having no direct relevance to food and agricultural issues, and thus discarded it.

2.2. Eight principles underpinning the human coding

Our human coding, conducted by two researchers, proceeded in three steps. Throughout these steps, the coders convened when they found a condition ambiguous to categorize; this happened in about 8% of the conditions. The coders also convened to verify the other category assignment to increase reliability of the coding procedure.

In the first step, we validated that the machine-driven procedure identified conditions on food and agriculture issues reliably. Even after

[2] We accessed FAO's databases online on November 2016.

[3] We tested lemmatizing and stemming the corpus, in contrast to keeping the corpus as it is. After validation, we decided to rely on regular expression for the text search, as that produced the most robust results (in the sense that it gave the most conservative and valid hits regarding food and agricultural issues).

[4] Polysemy is words with related meaning.

[5] Homonymy is words with the same spelling but carrying multiple meaning depending on context.

[6] *Land* does refer to both *arable land* but also *land-based border post* (for taxation).

[7] The IMF refers to "organic law" (foundational for corporations and other organizations) or "organic budget", but never to *organic* in an agricultural sense.

[8] CAMEL is a rating system developed in the U.S. banking system and used in the IMF financial language; there are no occasions where the IMF conditions policy on the animal, camel.

[9] *Oil* refers to both *edible oil* but also *oil prices*.

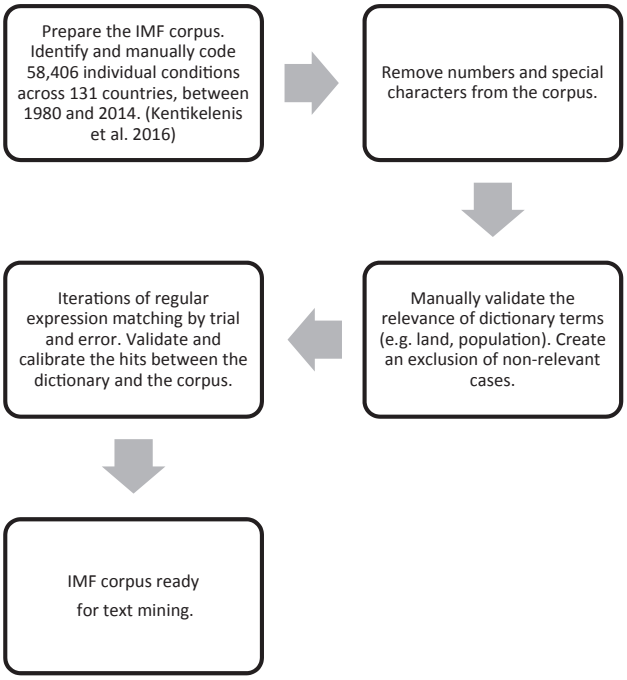


Fig. 2. Preparation of the IMF corpus. *Notes*: This figure describes the authors' workflow of preparing the IMF corpus for machine coding.

several steps of filtering at the machine-coding phase, some conditions might still be falsely considered to be about agriculture. Table 1 outlines some conditions exemplifying our key coding principles. The first example shows a typical structure of a false positive case. The machine search identified the term *land* in 'Landsbanki'—Iceland's oldest bank—and therefore erroneously identified it as an agricultural policy. With this manual validation, we identified nine false positives.

In the second step, the two coders manually assigned a code to each condition and grouped these codes according to their substantive areas (e.g. price liberalization, privatization, capacity building). Motivated by the principles of grounded theory (Corbin and Strauss, 2007), we defined the number and content of the groups inductively and iteratively, with no prior categories. We developed eight principles to guide the qualitative analysis:

1. All machine identified food and agricultural conditions shall be human coded and evaluated.
2. The analysis ignores any non-agricultural content of food and agricultural conditions.
3. The analysis also identifies conditions explicitly exempting agriculture.
4. A condition can be split into two or more sub-conditions if it refers to different actions that the government needs to take, not otherwise.
5. Only if in doubt about the content of conditionality, then we consult the original IMF program documents.
6. Each condition, or sub-condition, is assigned to (a) only one substantive category, and (b) only one ideological category. The substantive categories are inductively generated. We posit the following ideological categories: *developmental state*, *night-watchman state*, and *model-neutral*. Inductively created refinements within these stipulated categories are allowed.
7. Conditions consistent with both models are coded *model-neutral*.
8. Both the machine and human coding aims to be reproducible, systematic, and transparent. The output of the machine and human-driven analysis consists of a qualitative (Atlas.ti bundle file) and quantitative dataset (an Excel file) (Daoud, 2018a). These data are linkable back to the original Kentikelenis et al. (2016) dataset.

Each condition was assigned a code describing its content (*principle 1*). A majority of the conditions refer to a single policy. These conditions were therefore not split into sub-conditions (about 1000 cases). Example 2, in Table 1, shows such a single case: the IMF requests the Kyrgyz government to terminate the moratorium on land sales. It is, however, not uncommon that an IMF condition targets both agricultural sectors and other areas. Following *principle 2*, see example 3, we code only the agricultural reference in a condition and ignore the rest. Example 4 displays a single condition but with an exemption in the timber sector. The IMF tends to use these if the timing of some policy is unsuitable (e.g., domestic social disturbance). Based on *principle 3*, we

Table 1
Human coding examples and special cases.

Coding	Example of	Source
1. A capital injection into New *Landsbanki*, using tradable government bonds issued on market terms, to raise the capital adequacy ratio to at least 12 percent. (false positive)	Discarded condition, as it is not about agriculture	Letter of Intent, April 7 2010, Iceland
2. Eliminate moratorium on land sales. (code0 = commodify land)	Single condition.	EBS/00/182, Kyrgyz Republic
3. Complete liquidation of the Bolivian Agricultural Bank, the Bolivian Mining Bank, and the National Mining Exploration Fund. (code1 = liquidate bank; ignore)	Single condition, focus on agriculture, ignore the rest.	EBS/92/137, Bolivia
4. Abolish all export bans and quotas for agricultural products, except for timber. (code2 = abolish bans/quotas; code3 = except agriculture)	Single condition with an exception.	EBS/97/69, Armenia
5. Elimination of all remaining subsidies on bread and milk and the full liberalization of the prices of subsidized consumer. (code4 = eliminate subsidies in food; code5 = liberalize prices)	Split condition.	EBS/94/111, Moldova
6. Elimination of all subsidies related to rice marketing and an official announcement of this action. (code6 = eliminate subsidies in rice; code6 = announce policy)	Split condition, of which one announces the action.	EBS/99/120, Mauritania

set them aside in a special category called, *exempting agricultural policy*—we found 37. Motivated by *principle 4*, example 5 and 6 demonstrate how we could split a condition into two when it referred to two distinct policy actions. Example 6 highlights a split condition case where one of the sub-conditions requires an official announcement of the government's actions.

After we assigned substantive codes, we manually grouped these into super-categories (*principle 6*). For example, code 4 and code 6 in Table 1 both refer to the elimination of subsidies. We assigned these and similar codes to a super-category we created, called *eliminate or reduce subsidies*. We repeated this process until all substantive codes were assigned to a super-category with similar content.

After evaluating a condition's content (*principle 6*, again), we evaluated its ideological orientation. Based on the literature, we defined a condition as promoting a night-watchman state when it primarily promotes the extension of private property and competitive markets into different areas of food and agriculture (Summers and Pritchett, 1993; Williamson, 1990). This governance model regards the state's primary function pertaining to upholding law, security, and property rights (Gamble, 1988). We base our definition of the Washington Consensus and night-watchman state on Williamson's list of ten policies and its implication for the role of government (1990).[10] He defines the Washington Consensus by referring to what institutions in Washington—most notably, the IMF, World Bank, and US Treasury Department—mean by it. These institutions aim to focus the role of government on facilitating free markets. Accordingly, we use the term *Washington Consensus* when referring to the set of policies outlined by Williamson and employ the term *night-watchman state* when alluding specifically to the role of the state as per the Washington Consensus.

We define developmental state conditions as those that seek to use a state's capacity to intervene in the economy to modernize agricultural industries rather than relying on the power of market forces alone (Saraswati et al., 2013; Woo-Cumings, 1999). Model-neutral conditions are those that are compatible with both developmental and night-watchman state– environmental policy, anti-poverty policy, policies that strengthen state capacity, and a residual category (*principle 7*). Some conditions pertaining to building state capacity resonate with both a developmental and a night-watchman state. Strengthening the state's capacity to tax its citizens or to monitor property rights exemplify such policies. We also inductively generated several sub-categories for the model-neutral category, which allowed us to capture further nuances in IMF conditions.

We conducted the human coding in Atlas.ti 7.2. One major advantage of using computer-assisted qualitative coding software is that it makes the process systematic, transparent, and reproducible, fulfilling *principle 8*. The machine coding was conducted in R programming.

3. Results: Empirical evidence of IMF food and agriculture conditionality

This section evaluates the empirical evidence on the existence of IMF food and agricultural conditionality in the 1980–2014 period. The section starts by counting the frequency of such conditions, then presents their content, traces their evolution, and—lastly—shows their geographical distribution. Where relevant, we provide the references to the original IMF program documents (staff reports, letter of intents, executive board specials and minutes) that form the archival foundation of our database.

3.1. The frequency of conditionality

Of all the 58,406 IMF conditions, 1105 (2%) conditions[11] had content matching with the FAO dictionary. These are included in 332 (43%) programs (of 781), affecting 100 countries. Table S1, in the supplementary section, lists these countries and the number of times they have been affected.

To get a sense of whether 2% is sizable or not, we conducted two benchmarking exercises. Kentikelenis et al. (2016) offer the first point of comparison. Based on a qualitative content analysis, they find that the IMF's largest (core) policy area, *external debt issues*, sum to 15,407 (27.8% of the total) conditions, dwarfing the share of food and agricultural conditions. Food and agricultural conditions match rather the share of typically sized policy categories: *poverty reduction policies* contain 822 conditions (1.5% of the total), *institutional reforms* 1357 (2.4%), *labor issues* 1987 (3.6%), and *state-owned enterprise privatization* 3303 (6.0%). Table S2 shows how our matches cut across their policy areas.

A specialized benchmark is to compare food and agricultural conditionality against the IMF's conditions on health systems (Stubbs et al., 2017; Stubbs and Kentikelenis, 2018). For that, we constructed another dictionary containing the terms: *health, medic, pharma, drug, nurse, doctor, disease, vaccine, immuniz, measl, dpt, polio, hospi, care spend, care law, clinic*. This dictionary matched on 215 conditions, 0.4% of the total, indicating the relative value placed on food and agriculture over health issues.

Table 2 outlines the top 50 dictionary terms based on hits. Words with the stem *agric* (agricultural, agriculture, etc.) are the most frequent of the IMF's food and agricultural conditionality, with 192 hits; followed by *land* (138 hits), and *water* (106 hits). The rest of the list indicates that IMF conditionality targets a myriad of food and agricultural areas: farming, irrigation, fishery, textile, cigarette, and alcohol products. The hits displayed in the table match on non-unique conditions, implying that different terms can match on the same condition. These machine-driven results (hits) will, nevertheless, sum up to 1105 unique conditions in the Kentikelenis et al. (2016) database.

3.2. The content and ideological orientation of conditionality

The qualitative content analysis shows that IMF food and agricultural conditionality vary in breadth and depth. Table 3 outlines our 14 inductively generated policy categories and three overarching ideological models. The model-neutral category consists of four inductively generated sub-categories: *environmental*, *build state capacity*, *poverty reduction*, and *miscellaneous*. The 14 policy action categories capture the substantive content of food and agricultural conditionality that the IMF and governments have agreed to include in their adjustment programs. We proceed by presenting key overarching findings, and then outline specific results on each of the 14 categories.

Of the 1105 conditions, we further identified conditions that can be split into sub-conditions. As we explained in the methods section and exemplified in Table 1, we split a condition when it referred to more than one policy actions for which the government needs to comply. This procedure generated an additional 123 conditions, leading to a total of 1228.

Our analysis shows that the ideological orientation of the IMF's food and agricultural conditions is more nuanced than how the IMF has been portrayed in the literature (Babb, 2013; Walton and Seddon, 1994). Our results show that 59.2% (727) of the 1228 conditions are oriented towards a night-watchman state model; 40.1% (493) are model-neutral; and 0.7% (8) developmental. Within the model-neutral category, 23.9% (294) are conditions oriented towards building state capacity. Only 2.7% (33) have an explicit poverty reduction content and 2.9% (35)

[10] Williamson's list of ten policies is as follows: 1. Fiscal discipline; 2. Targeted social safety nets; 3. Broad and moderate tax base; 4. Market driven interest rates; 5. Competitive exchange rates; 6. Trade liberalization: 7. Liberalization of foreign direct investment; 8. Privatization of state enterprises; 9. Deregulation of markets; 10. Protection of property rights.

[11] We counted 1228 conditions if including sub-conditions.

Table 2
Top-50 terms.

	Term	Hits
1	Agric	192
2	Land	138
3	Water	106
4	Cotton	65
5	Fish	53
6	Cocoa	49
7	Coffee	49
8	Crop	49
9	Farm	46
10	Bread	42
11	Food	41
12	Rice	41
13	Sugar	41
14	Grain	37
15	Tobacco	37
16	Forest	36
17	Alcohol	29
18	Wheat	29
19	Flour	28
20	Cigarette	27
21	Fertili	22
22	Maize	15
23	Milk	15
24	Land use	14
25	Alcoholic	12
26	Groundnut	12
27	Textile	12
28	Vegetable	12
29	Cereal	11
30	Crops	11
31	Timber	11
32	Animal	10
33	Beverage	10
34	Beer	8
35	Beverages	8
36	Edible	8
37	Meat	8
38	Seed	8
39	Dairy	7
40	Demersal	7
41	Irrigate	7
42	Logging	7
43	Vegetable oil	7
44	Wine	7
45	Wood	7
46	Cooking	6
47	Drinks	6
48	Fruit	6
49	Hides	6
50	Logs	6

contain a pro-environmental policy—we discuss this finding in the discussion section.

The policy action categories tend to be tilted towards one of the ideological models. The category *establish, privatize or reduce cost of SOE (State Owned Enterprise), and liberalize sectors* is the largest category (192) overall and scores the highest on the night-watchman state model (178). Ukraine (21), Tajikistan (19), and Mali (11) are the top three targeted countries of these market-oriented policies. Also being one of the highest affected countries overall, Ukraine is an interesting case. Between 1995 and 1999, following the breakdown of the Soviet Union, IMF conditions stipulated that the Ukrainian government must de-monopolize and privatize large portions of agricultural production, distribution and storage enterprises. Some of the more extensive conditions required, for example, that the government privatizes "…70 percent of shares of 9500 medium- and large-scale enterprises and 300 grain silos…"; initiate "…bankruptcy procedures for all of the identified 170 collective farms that did not settle their debts"; or "….change the by-laws of Bread of Ukraine, eliminating its role as a government agent dealing with issues of provision of agricultural inputs and debt collection" (IMF, 1997a). In 1996, during the most intense period of mass privatization and social tension, the government founded *Khlib Ukrainy* (Bread of Ukraine) to protect a strategic chunk of Ukraine's grain marketing infrastructure (e.g. harbor facilities), against the preference of the IMF (IMF, 1997a, p. 25). In the end, however, the bread sector was de-monopolized, and parts of the Bread of Ukraine enterprise were privatized (Anderson and Swinnen, 2008, p. 204).

Two conditions aimed to improve state capacity, and twelve are miscellaneous. The two state capacity-improving conditions refer to the IMF's involvement in Niger in 1987. After periods of water scarcity in the country, agricultural production was severely affected, hitting people's livelihood (Daoud, 2018b, 2011, 2010). In this situation, the IMF, the World Bank, and the government agreed on an action plan to establish a new state-led water company (IMF, 1987a, 1986a).

The second largest category (158), *improve trade and investment conditions,* contain mostly conditions liberalizing trade (137). These measures include the usual decrees of lowering and equalizing tariffs across sectors or removing quotas in exports and imports of agricultural products. For example, Bulgaria (11) in the 1990s was the most affected by this type of market-oriented measure. The Bulgarian government turned towards the West after the fall of the Warsaw Pact, and the IMF was called in. This program exemplifies the highly detailed manner in which the IMF can stipulate its conditions. It wanted the government to abolish temporary import zones[12] and registration requirement in "… live animals, meat, dairy products, Christmas trees, grapes, wheat, barley, maize, rice, cereal flour, sunflower seeds and oils, sugar, yeast, alcohol, brans, oil cakes, forage, tobacco, skins and hides, and wool" (IMF, 1998). This type of detailed advice is typical of many programs.

We identified five conditions that protected the domestic market from international competition, and which, therefore, qualify as developmental strategies. The IMF sought to introduce custom duties on coffee and cocoa in Armenia (IMF, 1995a); increase export tax on timber and semi-processed logs in Cameroon (IMF, 1995b); introduce surcharge on alcohol beverages and tobacco imports in Equatorial Guinea (IMF, 1988b); increase port charge on rice imports in Guinea-Bissau (IMF, 1994a); and introduce tariff and import duty on agricultural products in Lithuania (IMF, 1997b). From the background chapters of the Executive Board Specials (EBS) documents, we could read that these often occurred in especially turbulent times, when the IMF and governments recognized the temporary need for protection of domestic markets against international competition.

The third largest category (135), *improve financial information collection, study economic effect, and announce policies*, contains only model-neutral conditions. The emphasis is on building state capacity regarding collecting information to improve decision making and publically announcing policies. These measures enhance the transparency of government decisions. These types of conditions were applied to 40 countries. In Mauritania (6), for example, the IMF has shown concern about overfishing, where the fish industry accounted for about half of this country's economic activity. Besides the IMF issuing environmental protection conditions (discussed below), a set of conditions required that the government continuously communicate to IMF staff about the state of the fishing sector. These conditions could be about sending a quarterly table summarizing confiscations of juvenile fish (IMF, 1994b), making sure that access rights to cephalopod and demersal fishing are being respected, or employing specialized experts to strengthen surveillance of fish exports (IMF, 1992). Accordingly, these state-capacity enhancing policies resonate with both a developmental and night-watchman state strategy, as they could promote the spread of markets or state-led governing of domestic industries, and therefore qualify as model neutral.

[12] A temporary import zone is an area, e.g. a harbour, where import of goods is admitted without payment of customs, with the view to subsequently re-export the goods.

Table 3
The content and ideological orientation of IMF food and agricultural conditionality.

Policy actions				Ideological model					
				Developmental	Model neutral				Night-watchman state
	In %	*In cum. %*	*Freq.*		Environmental	Miscellaneous	Build state capacity	Poverty reduction	
1. Establish, privatize, or reduce cost of SEO, and liberalize sectors	15.6%	15.6%	192	0	0	12	2	0	178
2. Improve trade and investment conditions	12.9%	28.5%	158	5	0	16	0	0	137
3. Improve financial info collection, study economic effect, and announce policies	11.0%	39.5%	135	0	0	46	85	4	0
4. Strengthen tax and financial base	10.6%	50.1%	130	0	0	4	124	0	2
5. Establish land registry, commodify land, or primary product	10.0%	60.1%	123	0	0	4	15	0	104
6. Change price regime	9.0%	69.1%	110	0	0	0	2	0	108
7. Eliminate or reduce subsidies	8.0%	77.0%	98	0	0	1	0	0	97
8. Change the role of marketing board	4.6%	81.7%	57	0	0	0	7	0	50
9. Strengthen agricultural ministry	4.5%	86.2%	55	0	0	0	55	0	0
10. Support and train agricultural actors	4.2%	90.4%	52	3	35	6	0	1	7
11. Repay arrears, or recover loans from debtor	3.0%	93.4%	37	0	0	36	0	0	1
12. Establish, capitalize, privatize, liquidate or restructure agricultural banks or ministries	2.7%	96.1%	33	0	0	6	4	0	23
13. Support poverty reduction efforts	2.3%	98.4%	28	0	0	0	0	28	0
14. Reduce government expenditure	1.6%	100.0%	20	0	0	0	0	0	20
Total			**1228**	**8**	**35**	**131**	**294**	**33**	**727**
In %				**0.7%**	**2.9%**	**10.7%**	**23.9%**	**2.7%**	**59.2%**

Poverty reduction-oriented conditions occurred four times in this third largest group. These related to the IMF's agreement with the government in Lesotho (IMF, 2003a) and Nicaragua (IMF, 2007a), respectively, to conduct poverty and famine relief studies in agriculture.

The fourth largest category (130), *strengthen tax and financial base*, also has a clear emphasis on building state capacity. The Pakistani government (22) is the top recipient and provides a representative example. Most conditions sought to extend and improve tax collection from the agricultural sector (IMF, 1993b). In the water sector, the IMF required that the government improve its assessment and collection of water charges (IMF, 1988c). The pattern is similar in the other 38 countries affected by conditions in this policy category, but there is also an emphasis on introducing and raising excise tax on alcohol and tobacco products (see for example Turkey, (IMF, 1999a)).

Thirty-three conditions in this fourth category are about either expanding value-added tax (VAT) or removing VAT exemptions. We also assigned these to building state capacity, as they tend to expand the financial base of governments. However, it should be noted that some recognize these types of policies as promoting the night-watchman state, especially if the aim of these actions is to level out any tax exemptions that can lead to imbalances—or favoring—between different market sectors (Swank, 2006). Our definition of model-neutral captures these types of dubious cases.

The fifth to eighth largest categories resonate mostly with the night-watchman state model. Using key words such as *establish land registry, commodify land,* or *primary product* (123), they require passing new laws enabling the commodification of land and to distribute certificates of already privatized farmland. Many of the former Soviet Union countries were affected by these conditions as their governments organized collective farms. In Russia, for example, the IMF required the president to issue a decree that enables all owners of private real estate assets to acquire the land on which their property was located (IMF, 1997c). Fifteen conditions are about improving the state's capacity to maintain land registries. These policies included establishing land agencies, as in the cases of Rwanda (IMF, 2007b) and Grenada (IMF, 2008b).

The overwhelming majority of conditions in *change price regime* are geared towards liberalization. They could target the entire agricultural sector, or primary products (e.g. wheat, coffee, rice). If the government handled the domestic distribution of these goods, the IMF wanted the selling price to reflect the global market price. Some policies sought to introduce market prices, but still allowed for a gradual transition. As in the case of Tanzania, the government was authorized to keep regulated prices: "Elimination of price controls except for 'essential items'…" (IMF, 1990).

In two instances, both occurring in Moldova, the IMF wanted the state-owned water and energy company to set the prices instead of letting the market regulate them (IMF, 2007c, 2006). This measure reinforces state capacity. The reason for this was disruptions in the water markets. However, the IMF pointed out that the fees "…are currently so far below cost-recovery levels…" recommending—not stipulating—that the authorities raise water prices (IMF, 2006, p. 16).

The IMF issued some of the most drastic conditions to *eliminate or reduce subsidies* (98) in Armenia. Consider the following six sequential conditions and their potential outcome on vulnerable groups: "Increase the price of bread in three stages…"; "The bread price will be adjusted further…" (IMF, 1994c). And, "Pass on the full cost of bread production…"; "Bread coupons will be abolished and the price of bread will be liberalized"; and "Remove cross subsidies on drinking water for households and direct subsidies on garbage removal, district heating, and hot water" (IMF, 1995a). In Egypt, the IMF took a more creative approach. Instead of reducing subsidies to bread production directly, it required the Egyptian government to reduce "…the size of the 'popular' bread loaf" (IMF, 1991).

Exactly 50 conditions in the category *change the role of marketing board* (57) seek to reduce the role of stabilization funds and marketing boards, qualifying as night-watchman state policies. These organizations are used by many developing countries as an intermediary between the domestic and world market (Woo-Cumings, 1999). Their common role, as legal cartels, is to buy primary products from farmers at a fixed price and then sell that product on the global market. In this way, the marketing board attempts to protect farmers from volatile world prices, and potential revenues would be reinvested in domestic industries. However, marketing boards have also been criticized for exploiting farmers by buying at a fixed low price and selling their

products at a systematically higher world price, funding lavish lifestyles of state employees (Bates, 1981; Shivji, 1978), and also acting as a source of government corruption (Daoud, 2015; Halleröd et al., 2013; Veeman, 1982). Nevertheless, it is not surprising that these entities are targeted by the IMF, as it views them as distortionary for both domestic and global competition. The top five affected countries are all African: Ghana (related to cocoa marketing), Burundi (coffee), Malawi (tobacco), Togo (cotton), and Senegal (rice).

It is, therefore, unexpected to find that on seven occasions the IMF sought to strengthen the role of marketing boards. For example, in the Dominican Republic the IMF issued a condition to establish a joint venture between the government and Dominica Agro Industries Ltd (which previously bought a government-owned agro-processing plant) to market fresh grapefruits and other citrus fruits (IMF, 1986b, p. 42). The reason for this joint venture was depressed citrus production and export conditions. In Burundi, the IMF acknowledged that "…the Government is concerned with improving the marketing of coffee…" via its Burundi Coffee Company (IMF, 1988d, p. 10). In agreement with the IMF and the World Bank, the government managed to restore financing of 1 billion in Burundian franc (7.1 million U.S dollar in 1988 currency) to marketing coffee globally.

The eight policy action categories that we have described so far cover 81.7% of IMF food and agricultural conditionality, and are largely dominated by night-watchman state policies. The ninth to eleventh largest categories have a model-neutral substance. All conditions in *strengthen agricultural ministry* (55) build state capacity. In Cambodia (8), which is one of the most affected countries in this category, the IMF sought to establish a "…forestry crime monitoring unit…" which was required to report quarterly and publicly to the Council of Ministers (IMF, 1999b). The process of transforming the Cambodian economy from planned to market-driven had put pressure on its largest resource: forestry. This pressure came mainly from an increasing activity in illegal logging activities outside of the official concessions (IMF, 1999b, pp. 9–10). In a similar spirit, the majority of the IMF's conditions in this category seek to empower ministries by requiring new laws to be passed or new agencies established. The main purpose, exemplified by the Cambodian case, is to enhance these ministries monitoring capabilities for both collecting tax and countering economic crime (IMF, 1999b).

Support and train agricultural actors (52) target mainly farmers and small companies. We classified three as developmental. One of these was about Somalian farmers' citrus production (IMF, 1987b). The IMF and the government agreed to modernize the agricultural sector, and the citrus industry was chosen as a pilot project. That industry had been plagued by bad harvest due to drought, and now—with proper training and new technology—the parties were hoping to increase production. The IMF's new agriculture development strategy for Sao Tome and Principe is another example (IMF, 2000). The government agreed to consolidate the gains achieved in the late 1990s in fiscal and exchange rate stabilization and move towards economic diversification. Beyond strengthening tourism, it was decided to modernize the agricultural sector and to promote new exporting routes with neighboring countries (IMF, 2000, p. 21).

Still, these types of conditions are exceptions. Thirty-five conditions in the policy category have an environmental orientation, of which twenty-one targeted Mauritania's fishing sector. Motivated by a worry of overexploitation of fish, the IMF and the Mauritanian government agreed to various policies: from specific actions such as banning "… fishing nets with a mesh size under 70 mm"; to more general actions as establishing "…license for industrial fishing" and issuing "territorial fee for artisanal fishing" (IMF, 1993c). As these conditions are geared towards protecting a national resource rather than developing the economy towards producing higher-value-added goods, we categorize them as environmental in model-neutral instead of developmental.

Repay arrears, or recover loans from debtor (37) have no clear ideological direction, and thus we categorize nearly all as miscellaneous in model-neutral. These conditions are mainly about actors, for example, domestic companies, settling their debt to the government; or, the government paying back to creditors. The aim is to balance the government budget by settling old contracts.

The twelfth category, *establish, capitalize, privatize, liquidate or restructure agricultural banks or ministries* (33), promotes night-watchman state policies and tends to reduce state capacity. The IMF tends to target national agricultural development banks (Seibel, 2000). We find that 73% of these conditions (24) privatize, liquidate, or downsize these agriculture banks. Fourteen countries are affected: Vietnam (3), Romania (3), Tajikistan (3), Bolivia (2), Lithuania (2), to mention the top-five countries.

Interestingly, the IMF appears to have acted against this trend in four conditions and sought to strengthen or establish new agricultural state-led organizations. Haiti accounts for two of these state capacity building conditions. The IMF recognized the need for a Haitian public investment program, which focused on rural development projects in irrigation and road building. It requested, therefore, the establishment of a new state-led agricultural credit bank (IMF, 1987c). However, at a closer look, it turns out that this new bank was created as a more streamlined version of two existing organizations that were closed down by the IMF earlier: Bureau of Credit Agricole and the Banque Nationale de Developpement Agricole et Industriel (IMF, 1986c, p. 39).

The thirteenth largest category, *support poverty reduction efforts* (28), can fit both a developmental and night-watchman state agenda, which is why we assigned it as a model-neutral strategy. When issuing a poverty reduction condition, the IMF tends to do that in conjunction with a price regime change. Moldova is a typical case. The IMF set out in a condition that the Moldovan government "…increase of tariffs for heat and water…" in line with a reasonable cost-recovery level, but with "…an increase in compensation to poor households" to cushion the effect on them (IMF, 2006). These types of anti-poverty measures could also happen when the government, as in Nicaragua (IMF, 2003b), was ordered to raise the VAT but was allowed to keep some exemptions on essential goods. It should be noted, nonetheless, that in the vast majority of conditions related to liberalizing food and agricultural prices, no additional poverty reduction efforts were put in place.

The last category is about *reducing government expenditure* (20), consistent with night-watchman state policies. All these conditions sought to limit government spending in various ways, ranging from extensive measures such as laying off 4000 workers in agricultural companies, to simpler ones such as canceling Christmas bonuses, both happened in Romania (IMF, 2003c).

Having discussed the content of IMF food and agricultural conditionality, we now turn to consider its historical trajectory.

3.3. The evolution of conditionality

Fig. 3 shows the historical trend of the frequency of IMF food and agricultural conditionality by ideological model. In 1980, the total frequency of all these conditions was relatively small, with a sharp rise by the mid-1980s, reflecting the rapid expansion of IMF programs in general, with a peak by the end-1990s. This peak also marked the height of criticism of IMF policies. By then, the IMF sought to 'streamline' its conditionality policy (Babb and Buira, 2005), promising that conditions will be kept to a minimum (IMF, 2009, 2001). By the turn of the millennium, we find that the number of conditions dropped sharply. This decline can be explained by the end of programs of some large agricultural economies (e.g. Ukraine) or agrarian-based societies (e.g. Mauritania). Fig. S1 in the supplements section shows the trends by country. The period between 2000 and 2014 entails a comparably stable number of food and agriculture conditions of about 15 per year. Additionally, the number of conditions between the first decade of IMF lending activities (1980 and 1990) is 167, and the number of conditions in the last decade (2004 and 2014) is 155. Still, during the last few years, the trend is declining, and it is possible that these conditions will eventually be phased out.

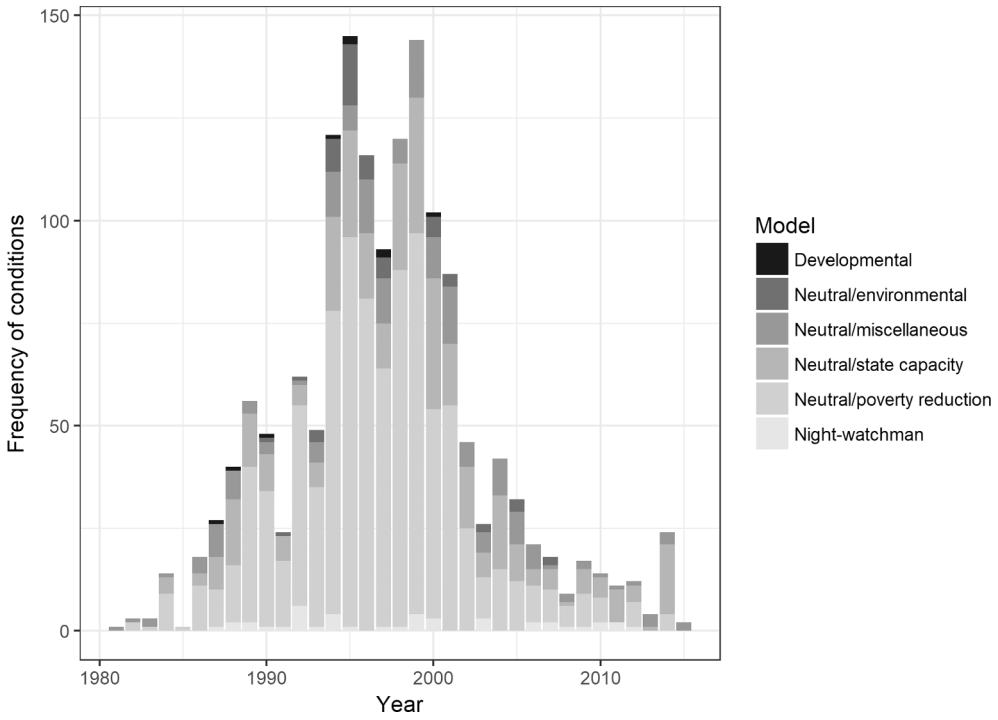


Fig. 3. The overall historical trend of IMF food and agricultural conditionality, 1980–2014. *Notes*: Authors' calculations based on the data.

Fig. 4 shows the yearly proportions of the key ideological models in IMF food and agricultural conditionality. The proportion of night-watchman state conditions peaked in 1996/97, with about 80% of the conditions having this ideological orientation. After the 2008 global financial crisis, this proportion had shrunken to less than 25%. Conditions oriented towards state capacity building have been steadily rising since the 1990s, from about 12.5% in the mid-1990s to about 50% in 2010. The graph also shows a small rise of poverty reduction conditions: hovering just above 0% in 1980, to below 5% in 2005, with a minor burst to 12% around the global financial crisis, and finally, fizzling out by the year 2014.

In the appendix, we scrutinize further the types of conditions in the food and agricultural sector. First, since IMF food and agricultural policy measures mostly require changes to the structure of the agricultural sector and the institutions that govern it, these measures are predominantly "structural conditions" (Fig. S2). Second, most of the IMF food and agricultural policy conditions are binding. Binding conditions make up about half (597) of all food and agricultural conditions—see Fig. S3. These conditions consist of prior actions, structural performance criteria, and quantitative performance criteria (see e.g. Copelovitch, 2010). Prior action conditions are usually issued when the IMF is in doubt on whether the country in question will implement the program consistently. These conditions make up about 36% of all food and agriculture conditions. The IMF considers these conditions crucial for the continuation of a program, and it will delay access to further finance until they are implemented.

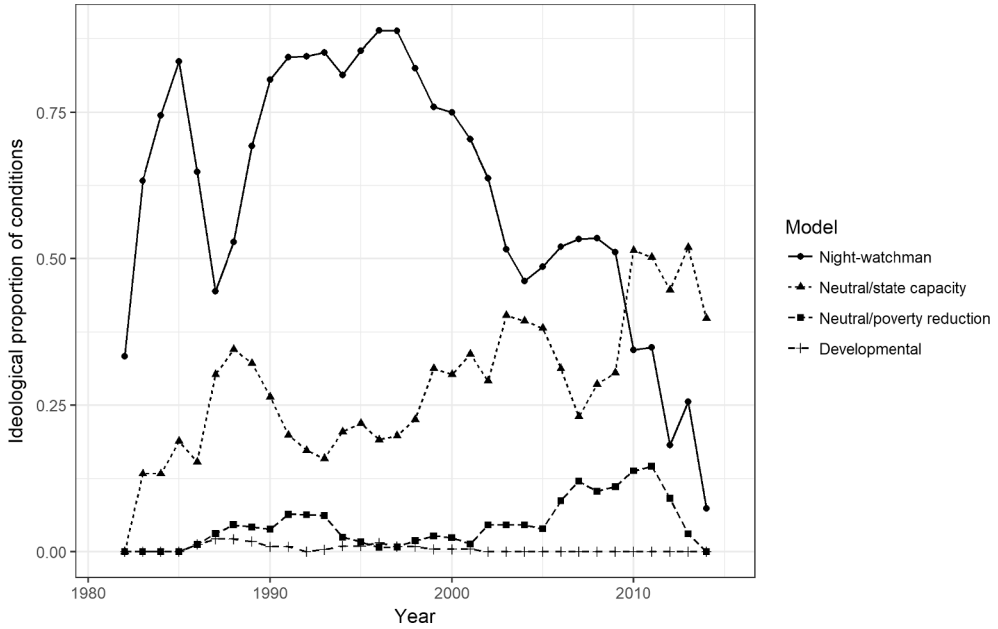


Fig. 4. The yearly proportion of conditions' ideological orientation (3-year averages). *Notes*: Authors' calculations based on the data.

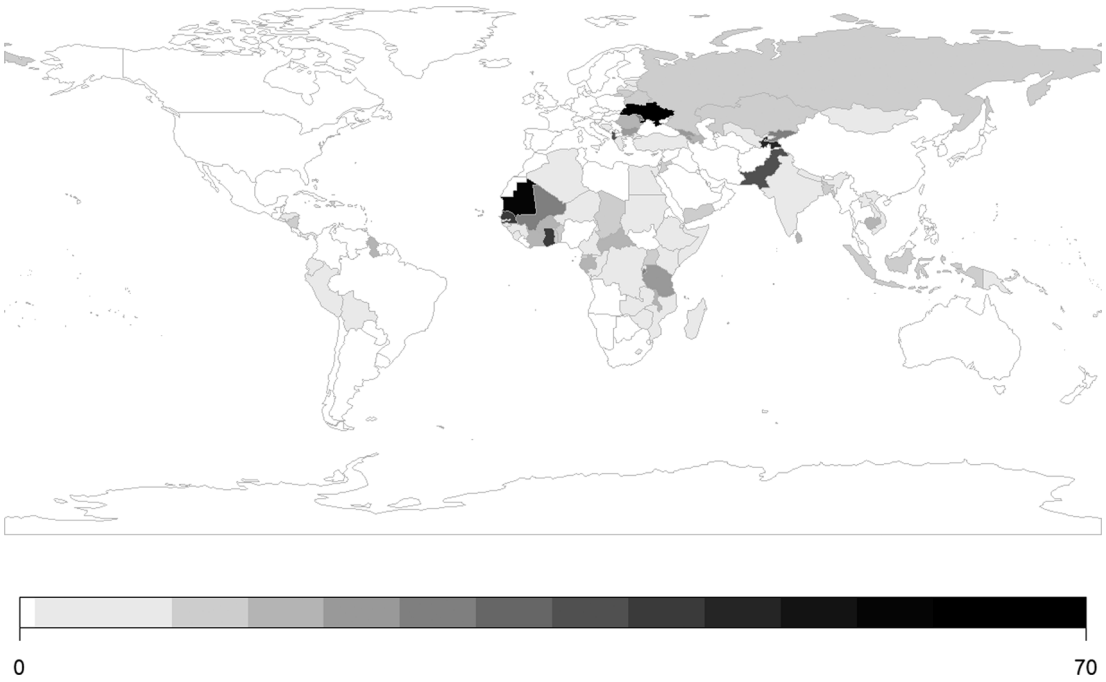


Fig. 5. Geographical distribution of the total number of IMF conditions in food and agriculture, 1985–2014. *Notes*: Authors' calculations based on the data.

3.4. The geography of conditionality

Geographically, food and agricultural conditionality has been introduced in 100 countries of the 131 that had an arrangement with the IMF. Fig. 5 maps the geographical trend, showing that a majority of the African countries—where food insecurity is largest—were affected by these conditions. The West African region had the most conditions, with—among them—Mauritania in the lead 69 conditions), followed by Senegal (41), Ghana (39), and Mali (30). These countries depend largely on agriculture, with respect to both domestic production and international trade.

Another hotspot affected by this type of conditionality is Eastern Europe, specifically countries of the former Soviet Union: Ukraine (58 conditions), Albania (37), Tajikistan (36), Kyrgyz Republic (25), Georgia (24), Moldova (24), Armenia (20), Bulgaria (20), and Azerbaijan (18). Most of these countries were the agricultural powerhouses of the Soviet Union. Ukraine, for example, was one of the main suppliers of agricultural products (Osborne and Trueblood, 2002), and today is one of the world's largest agricultural exporters. After the collapse of the Soviet Union, most of these countries—including Russia (12)—went through radical privatization programs under the supervision of the IMF (Hamm et al., 2012; King, 2001; King and Sznajder, 2006). Not surprisingly, their large-scale privatizations and liberalizations included their agricultural sectors.

Latin America has been largely spared of IMF food and agricultural conditionality. This is puzzling as this region underwent intense IMF adjustments in the 1980s and 1990s (Remmer, 2002). For example, regional powers of Latin America—Argentina, Mexico, Chile, and Brazil—have substantial agricultural industries but little or no agricultural conditions. This is an interesting contrast to Eastern Europe, which we discuss in the next section.

4. Theorizing about IMF food and agricultural conditionality

The article presented stylized facts about the IMF's interventions in food and agriculture, an area in which the IMF lacks the mandate and expertise to operate (Plant, 2008). The qualitative analysis has shown that many of these conditions envisage radical structural changes in agricultural sectors and rural social structures. In this section, partly based on our empirical material and partly on previous research, we turn to theorizing about possible causes of these interventions.

We consider three mechanisms that drive the IMF to spread its activities into food and agriculture. The first mechanism relies on the IMF's stipulated reason for why it would target agriculture: disciplining governments' fiscal budgets (IMF, 2013, 2008a; Plant, 2008). Agricultural subsidies are the main target. As the former Deputy Director of the IMF's Policy Development and Review Department, Mark Plant articulates the point:

> "In general, the IMF does not provide policy advice on agriculture, or any productive sector (that's the preserve of the World Bank and other donors). However, sometimes in a Fund-supported program, country authorities will include sector-specific reforms, including in agriculture, if it is critical for macroeconomic stability. For example, when subsidies to the agriculture sector are straining the government's budget. But this is rare. Over the past five years, just 35 out of 2640 lending conditions in Fund-supported programs related to agriculture." (Plant, 2008)

Indeed, subsidies can be expensive for governments to maintain (Lensink, 1996). Still, policymakers see them as a vital policy tool. One of the strongest reasons for implementing them, besides combating poverty, is maintaining national self-sufficiency in agriculture—a crucial asset in times of war. For example, in Pakistan, subsidies on food, fuel, and electricity accounted for 2.5% of GDP in 2008 (IMF, 2008c); irrigation subsidies in India were somewhere in the vicinity of US$579 million per year from 2004 to 2008 (Palanisami et al., 2011); the European Union subsidizes agricultural production by €59 billion per year, partly driven by its Second World War experience; similarly, the United States has long been subsidizing farming, which has produced a massive yearly cereal surplus that has been used, among other things, for foreign food aid (Nunn and Qian, 2014; Prasad, 2012). As these costs can occupy a considerable portion of a government's expenses, the IMF will target these subsidies—as we, for example, observed in Pakistan.

Nonetheless, this cannot be the only explanation, given that only 8% of the food and agricultural conditions targeted subsidies. Subsidies

rank only seventh in the list of the above-identified policy categories. Even if we included two additional policy categories that usually are important for macroeconomic stability in favor of this explanation, we would be left with a significant portion of unaccounted conditionality. *Reduce government expenditure* category adds 1.6%, and *strengthen tax and financial base* gives another 11%, which altogether, with the category *removing subsidies*, would only account for 20% of all the conditions. Accordingly, there has to be other, stronger driving forces motivating the IMF's interest in agriculture beyond fiscal discipline.

A second possible reason as to why the IMF scrutinizes food and agricultural sectors follows from its mission creep into the development scene (Babb and Buira, 2005). As past studies have shown (Dreher, 2009; Vreeland, 2003), after the dissolution of the Bretton Woods system, the IMF struggled to redefine its role and identity and gradually became a development-oriented organization (Vetterlein and Moschella, 2014). As many of the low- and middle-income countries that turn to the IMF are agrarian economies, the IMF will necessarily face issues in food and agricultural sectors (Walton and Seddon, 1994). For example, Ukraine, the second highest global recipient of such conditions, was one of the agricultural power-houses of the former Soviet Union; the other top recipients, Senegal, Ghana, Albania, and Pakistan, all have large agricultural economies, with a significant portion of the population living in rural areas. Encounters with these types of countries increase the IMF's likelihood to engage in food and agriculture conditionality (World Bank, 1981).

However, the IMF's treatment of major agricultural economies does not consistently explain its interest in food and agriculture—as we noted in Latin America. Our findings show that major economies with both sizable agricultural industries and extensive IMF programs had no, or only a few, agricultural conditions. Take, for instance, Argentina, which had 265 general IMF conditions but zero in agriculture. Chile had 68 versus 0; Brazil had 185 versus 1; and Mexico had 105 versus 0. It is difficult to determine the exact causes of these patterns without conducting an in-depth study of how these countries are different from others that received food and agricultural conditionality. Nonetheless, a likely explanation is that in the early 1980s, the IMF focused on pure macroeconomic aspects—such as controlling inflation, balance of payments, and external debt—avoiding real industries and agricultural production. Stiglitz emphasizes this historical difference between the early and recent IMF programs: "If land reform … regulations were underemphasized by the IMF and the Washington Consensus, in many places inflation was overemphasized" (Stiglitz, 2003, p. 81). Subsequently, when the IMF grew in confidence by deeming its Latin American programs as successful, backed implicitly by economists like Milton Friedman hailing the Chilean case as an "economic miracle", it started to apply its policies outside of traditional macroeconomics (Ostry et al., 2016). Thus, the IMF's night-watchman doctrine expanded to other sectors, including food and agriculture (Walton and Seddon, 1994). This observation matches with the rise of these types of conditions between the mid-1980s and the early 2000s, as outlined in Fig. 3.

Accordingly, we argue that the third mechanism is rooted in the IMF's Washington Consensus values. Our empirical finding in Fig. 4 shows that during the period 1985 and 2000, the proportion of night-watchman state conditions was about 75%. The IMF considered more *laissez-faire*, or less government intervention in the economy—regardless of sector—better for creating economic prosperity. The IMF's free market orientation is well-established in the literature (Chorev and Babb, 2009; De Vogli, 2011; Mueller, 2011; Rowden, 2009; Schrecker and Bambra, 2015). We find that its overall activities partly resonate with its operations in agriculture as well (IMF, 2008d). It also resonates with the Berg report, outlining the World Bank's long-term policy for growth in Sub-Saharan Africa. Berg argued that African governments have to take structural measures in addressing agriculture:

> "Agricultural output is the single most important determinant of overall economic growth and its sluggish record of recent years is the principal factor underlying the poor economic performance of the countries of this region. For this reason, growth-oriented policies for this sector are crucial." (World Bank, 1981, p. 45)

Berg's suggestions for African agriculture match with Williamson's (1990) list of ten Washington Consensus policies. In turn, matching this list with our inductively identified policy categories in Table 3, we discover a reasonable fit. At least five of his ten policy categories can be mapped onto our inductively produced categories. The removal of subsidies accounts for 8% of all IMF food and agricultural conditions. Add Williamson's trade liberalization (which maps to our *improve trade and investment conditions*), his tax reforms (our *strengthen tax and financial base*), secure property rights (our *establish land registry and commodify land*), privatization (our *establish and privatize SEO*) and we account for at least 60% of our findings. Hence, Berg and Williamson's prescriptions translate into forming a night-watchman state that is expected to boost economic performance in agriculture.

One puzzle remains. How can the IMF both favor night-watchman policies and still articulate a considerable set of policies that do not necessarily promote free markets? This is manifested in our findings in two ways. First, as only 59% of agricultural conditionality promotes night-watchman state policies, about 40% are model neutral and 1% developmental. Second, the IMF's proportion of night-watchman state conditions has been declining ever since the end of the 1990s from a peak of 80% to a trough of 25% in 2014 (see Fig. 4). These patterns, we argue, reflect the IMF's movement toward an *augmented* Washington Consensus: a set of policies that includes the original set—from liberalization to privatization—but that now also emphasizes the requirement to establish favorable institutional foundations (Rodrik, 2001). After the extensive critique of the IMF's operations in Latin America and disappointing results in the former Soviet Union, the IMF sought to refashion itself. To create and optimize the institutional underpinnings of market economies, it began to argue that policymakers have to invest in mechanisms promoting corporate governance, anti-corruption, and targeted poverty reduction. Institutions would have to be installed before mass privatization programs are launched, or at least in conjunction with them. Our findings echo the re-orientation of conditionality since the mid-1990s. The proportion of state capacity-building conditions has been rising since the mid-1990s. Additionally, as shown in Table 3, improving financial information collection and announcing policies is the third largest policy category of food and agricultural conditionality. Hence, our findings are consistent with the IMF's attempt to adapt its policies according to an augmented Washington Consensus.

In summary, the IMF's explanation of why it targets food and agriculture—namely, fiscal discipline—can only account for one fifth of our findings at most. The two stronger explanations are IMF's mission creep into the developmental business and augmented Washington Consensus values. While the IMF's Washington Consensus orientation is documented (Babb, 2013; Babb and Kentikelenis, 2017; Henisz et al., 2005; Kentikelenis and Seabrooke, 2017; S. Nelson, 2014; Williamson, 1990), the IMF's intentions behind this mission creep into food and agriculture are open to debate. As March and Olsen note, "organization implies intention…" (March and Olsen, 1985, p. 314). Nevertheless, in a complex global environment, scholars have found only a weak connection between organizations' articulated intentions and their outcomes (Babb, 2003). For the IMF, this slippage into agriculture does not necessarily signal an intentional shift in or augmentation of policies (Babb and Buira, 2005). Changing global conditions, with a mixture of shocks from economic crises and re-prioritization of the global community's macroeconomic goals, in the 1970s and 1980s altered IMF's policy objectives (Polak, 1991). The original mandate of the IMF was to monitor the global financial system under the Bretton Woods system of stable exchange rates by aiding countries in avoiding large external imbalances and facilitating adjustment to their exchange rates. After the breakdown of the Bretton Woods system, the IMF adapted its

adjustment policies to facilitate economic growth. This growth-oriented approach has enabled the IMF to widen its mandate to encompass any sector that it deems macro-critical—fueling organization slippage. Consequently, with such loosened mandate and because many of the developing countries have large agrarian sectors, IMF food and agricultural conditionality emerged. This slippage due to global conditions might be unintended, yet its effects food and agricultural sectors are real. The next step in this research program is to evaluate these policy effects.

5. Discussion

This article provides a comprehensive database on *IMF Food and Agricultural Conditionality*, facilitating agricultural policy evaluations. The article provides two versions of this database, one for qualitative analysis (Atlas.ti file of the actual text) and the other for quantitative (excel sheet of agricultural policy counts). The supplementary material section provides instructions for replication of this data and discloses accessible re-coding (Daoud, 2018a). Based on this data, the article outlines stylized facts about the IMF's policy interventions in food and agricultural issues. Drawing on a combination of machine and human-driven content analyses, our analysis shows that the IMF's claim that its policies "… only occasionally target food and agriculture…" (Plant, 2008) does not match with practice. In summary, these conditions were applied in 332 (43%) of all (781) IMF programs and affected 100 countries of the 131 that have ever had an IMF program between 1980 and 2014. Our qualitative analysis shows that food and agricultural conditionality cuts through all kinds of policy areas. It encompasses privatization of state-owned farms, liberalization of agricultural trade, and deregulation of agricultural sectors. Our evaluation of the ideological orientation of these policies shows that 59.2% of the conditions promote a night-watchman state; 0.7% are developmental; and 40.1% are model neutral, capable of promoting both models. Of the model neutral, 23.9% conditions aim at building state capacity; 2.7% seek to combat poverty; and 2.9% protect the environment. This evidence qualifies as mission creep: an expansion of the IMF's activities into new policy areas. The IMF's intention to target the agricultural sector springs from changing global conditions with the fall of the Bretton Woods and its goal to promote economic growth.

We highlight three limitations of our study before discussing some policy implications. First, our study was restricted to analyzing the discrepancy between the IMF's mission statement and its policy practice through conditionality. What other channels of influence has the IMF used to reform agricultural sectors? Two potential channels we have not analyzed comprise the IMF's surveillance and technical assistance operations. And what role the negotiating government have in requesting agricultural conditions? Governments can use the IMF as a scapegoat to implement unpopular domestic policies (Vreeland, 2007). Additionally, from our study, we know that the IMF explicitly avoided targeting food and agricultural policies in 37 conditions, but we still know little about the implementation process of the remaining conditions. How closely did the implementation follow the original agreements? How many were aborted, and for what reasons?

Second, our analysis has not quantified the relative importance of each condition, beyond organizing them in policy categories. Some conditions bring less intrusive policies compared to others: for instance, a condition about announcing a policy is fundamentally different from actually privatizing agricultural production. The former makes policies more transparent and may aid in combating corruption; the latter changes the fundamental structure of the economy. Even within the same policy area, care has to be taken about weighing the magnitude of impact. For example, a condition stipulating that a particular state-owned agricultural company has to be privatized carries a different weight compared to a condition privatizing 4000 farms. One needs to consider, among other things, the size of these companies, production capacity, and their market structure (e.g. monopolistic or not).

Third, one possible objection to the account presented in this article is that the IMF works closely together with its sibling institution, the World Bank (IMF, 2016). Therefore, although the IMF lacks the expertise to engage in agricultural business, it will rely on the skills of the Bank to avoid missteps. This could be the case. However, although the Bank is occasionally mentioned in the IMF program documents, we find only 24 conditions that directly involve the Bank. This indicates a meager amount of formal coordination. Moreover, in the case of Tajikistan, which was a pilot case for an *enhanced Bank-Fund collaboration* in 1998, the IMF's Independent Evaluation Office (IEO) finds a well-functioning collaboration between the two organizations, but that it could be improved: "In general, staff have tried—not always successfully—to coordinate their work programs." (IEO and IEG, 2004, p. 47). Even if we assume that the IMF indirectly consults with the World Bank on each of the food and agricultural conditions it has issued in the 332 programs, the question of the IMF's mandate remains because arguably its primary role is not to reform food and agricultural sectors. Thus, even if we accept that the IMF intervenes in food and agriculture since these sectors are macroeconomically critical, and that it collaborates with the Bank to complement its lack of expertise in these sectors, our article still supplies a significant contribution to the state-of-the art by explicating the nature and frequency of IMF's food and agricultural conditionality. Neither the IMF nor any other scholars have done so before.

Our findings advance food policy research in several ways. First, our article calls for further investigation of the IMF's interventions in food and agriculture and beyond. We note that our analysis shows that IMF conditionality in agriculture exhibits a more nuanced ideological orientation compared to what the literature finds when evaluating its programs. The study of Kentikelenis et al. (2016) is an exception, which also focuses on conditionality. Although their analysis does not use the same quantifying methodology and focuses on social protection and labor issues, there are some interesting tangent points. They find that much of the policy advice that the IMF gives countries today is still the same advice it gave them during the 1990s—despite what the IMF management is publicizing. Our study shows that 80% of the food and agricultural conditions reflected Washington Consensus ideology in 1996/97. However, contrary to the Kentikelenis et al. account, we find a decreasing trend ever since, shrinking to just below 25% after the 2008 financial crisis. One explanation for this difference could be that the IMF discriminates between types of markets, treating food and agriculture differently. Another explanation, more plausible, could be that the IMF has already successfully pursued expansive liberalization of food and agriculture across the world, and therefore the application of conditionality is no longer necessary. Future research could reveal the most likely drivers.

We considered three key forces driving the IMF to target food and agricultural sectors: fiscal discipline, Washington Consensus ideology (and its augmented version), and mission creep. We have not evaluated the developmental or social impact of these policies, nor provided a causal analysis of their determinants. With the accompanying replicable dataset—provided as a supplementary file—future research can explore these matters in greater depth. Our aspiration is to fuel research about the relationship between IMF policies and agricultural issues (e.g. urbanization, land grabbing, development, poverty reduction). The data set contains disaggregated measures of conditions with their content and ideological orientation; it isolates IMF food and agricultural conditionality from other types of IMF conditionality (Kentikelenis et al., 2016); it has a global span, which enables comparative research; and it covers 25 years, thus allowing for time-series analyses.

Motivated by our findings and the IMF's acknowledgment of its lack of expertise in agriculture, it is reasonable to suggest that the IMF either should not issue any food or agricultural policies until its mandate explicitly admits such interventions, and that it builds functional competence to do so; or, the IMF should pass all agricultural conditions through a joint approval system with the World Bank, FAO, and the

World Food Program (WFP). The last option resonates with the 17th Sustainable Development Goal: to revitalize the global partnership among governments and international organizations. If the circumstances demand that the IMF has to engage in food and agricultural business, then it would perhaps benefit from a deeper collaboration with FAO and WFP, beyond its partnership with the Bank. This type of close cooperation has occurred historically (e.g., the IMF's Food Financing Facility), and certainly could again. Even if it did not live up to the expectations of the global community (Kirkpatrick, 1985), it shows that collaboration is a real possibility.

Author contributions

Conceived the research topic and led the research: AD. Designed the research: AD, LPK. Programed the text-mining algorithm: AD. Collected the FAO data: AD. Collected the IMF data: AEK and TS. Performed the qualitative content analysis: AD, LPK. Wrote the manuscript: AD. Revised the manuscript: AD, BR, LK, AEK and THS.

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Appendix A. Supplementary material

Supplementary data to this article can be found online at https://doi.org/10.1016/j.foodpol.2019.01.005. Replication data is available at Daoud, A., 2018. Qualitative and Quantitative data for "The International Monetary Fund's Interventions in Food and Agriculture: An Analysis of Loans and Conditions." https://doi.org/10.7910/DVN/0PZVI7.

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