Monetary policy frameworks since Bretton Woods, across the world and its regions

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Abstract

The Comprehensive Monetary Policy Framework (CMPF) project, which considers de jure and de facto, domestic (money, inflation) and external (exchange rate), monetary policy targets, has now classified 186 countries/currency areas from 1974 to 2017. This means that it is now possible to track the evolution of monetary policy frameworks across the world and its regions. This paper outlines the methodology of the classification and analyses the trends at global, regional and sub-regional levels.

Keywords Monetary policy framework · Exchange rates · Inflation targeting · Discretion · Inflation · Economic growth

JEL Classification E42 · E52 · E58 · F33

1 Introduction

The Comprehensive Monetary Policy Framework project, which classifies countries' monetary policy frameworks on the basis of both domestic (money, inflation) and external (exchange rate) targets, and both de jure announcements and de facto attainments of targets, is now largely complete in the breadth of its coverage (the timespan will be extended in due course). The aim of the project has been to produce a resource for researchers undertaking empirical analysis of monetary and macroeconomic issues, whether that involves identifying the trends over time in different groups or regions of countries, or examining the operation and effects of particular frameworks such as inflation targeting, or just taking account of the impact of different frameworks in investigations of, say, the effects of the global financial crisis. The monetary policy frameworks (MPFs) of 186 countries and/or currency areas have now been classified from 1974 to 2017. This means that, for the first time, it is possible to track their evolution across the world and its regions, as is done below.

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When the project started, there were two detailed classifications of exchange rate regimes available, those by Reinhart and Rogoff (2004, see also Ilzetzki et al., 2019) and Levy Yeyati and Sturzenegger (2005, see also their 2016 paper), both of which emphasised de facto rather than de jure arrangements following the distinction made by Calvo and Reinhart (2002) between what countries say and what they do. But there was at that time no such detailed classification of monetary policy arrangements, little emphasis on de facto as opposed to de jure monetary policy targets and no classification which covered both domestic and exchange rate arrangements.[1] The Comprehensive Monetary Policy Framework (CMPF) project (Cobham, 2018, 2021) was designed to fill these gaps.

The MPF classification was published (at https://monetaryframeworks.org/) first for a sample of 60 advanced and emerging economies. Since then, the Middle East and North Africa, Latin America, Asia, Africa, and most recently the Caribbean, and Other Europe, Caucasus and Central Asia (Albania and countries which came out of the USSR and Yugoslavia in the early 1990s) have been included. The initial work had looked at some Middle East and North African economies as well as emerging economies, which meant that issues such as the need for a distinction between exchange rate fixing and exchange rate targeting (discussed below) had already been addressed, and the move to developing economies more generally did not require any modification to the original classification methodology. However, the lack of formal targets for most developing countries particularly in the earlier decades meant that more emphasis had to be placed on the monetary policy instruments deployed and for that reason the 'country details' (on the Countries page of the website) for many developing countries tend to be longer and more detailed than those for advanced countries. The classification is now essentially complete in space though not in time: it covers 186 countries/currency areas, that is all separate and independent countries/currency areas with population above 250,000,[2] for the 44 years 1974–2017, and it is intended to be updated to 2023 by the end of 2025.

This paper explains briefly how the classification works and reports on the main trends it reveals, first for the world as a whole and then for a set of regional groupings of countries. Section 2 outlines the methodology of the classification. Section 3 presents the main trends revealed by the classification at the global level. Section 4 presents the main trends for different regions, provides a more detailed breakdown by countries and discusses key factors in policymakers' choices of MPFs. Section 5 concludes.

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[1] The IMF had begun to identify domestic monetary policy targets alongside exchange rate regimes in its Annual Reports on Exchange Arrangements and Exchange Restrictions, but the domestic element remained limited and largely de jure.

[2] Countries with populations below 250,000 mostly either use another sovereign's currency or peg their exchange rates in some way, with little or no independent monetary policy operations.

2 The CMPF classification

The focus of the CMPF classification is on the objectives of monetary policy, together with the contexts that condition those objectives and their pursuit. In the words of the original definition, "Monetary policy frameworks can be thought of as combinations of the objectives of the monetary authorities (including their understanding of the trade-offs between those objectives) and the set of constraints and conventions—the former more binding, the latter more matters of established usage—within which specific (conjunctural) monetary policy decisions are made. The constraints and conventions that are relevant here include the rules or disciplines to which the authorities are subject (voluntarily or involuntarily), the nature of the financial and monetary markets and institutions in existence, the understandings (on the parts of the monetary authorities and of the society) of key macroeconomic relationships, and the political environment within which the monetary authorities operate." (Cobham, 2018, p. 6; 2021, p. 5).

The classification proceeds, therefore, by asking (i) whether, in a given country/year, there was a specific target for some variable; (ii) if so, for what variable; (iii) whether the target was narrow or wide; and (iv) whether the target was met, using precise criteria for (iii) and (iv) (set out in Tables 2 and 3 of Cobham, 2021) such that targeting can be 'loose' or 'full', depending on the nature of the targets specified and the degree of attainment.[3] Where no such targets exist or any target is not attained the MPF is in most cases 'discretion', but the experience of implementing the classification suggested a useful distinction, which depends on both the effectiveness of the instruments available to the monetary authorities and the coherence and precision of their objectives, as between 'unstructured', 'loosely structured' and 'well structured' discretion.[4] Figure 1 shows the algorithm for identifying all these categories in the classification (together they amount to around 80% of the MPFs for the whole period, and between 73 and 77% for each year since 1999,[5] while currency union membership amounted to another 14–18% and all other MPFs to 7–10%).

Experience also suggested a distinction between an exchange rate 'fix', where the exchange rate is set within very narrow or even zero margins by a monetary

[3] The attainment criteria are 'generous' in that they allow for brief and small over- or undershoots of the targets, and in the case of inflation targeting larger misses where expectations remain anchored. Where there is no formal published target but it is widely understood that some target exists and is seriously pursued, then loose targeting is identified. For example, the US is classified as a loose inflation targeter from 1996 to 2011 because it had and broadly attained a clear goal of price stability, and in many respects behaved like a standard inflation targeter. The European Central Bank is similarly classified as a loose inflation targeter before 2022.

[4] In practice the two end-categories are easier to pinpoint, and a large number of intermediate loosely structured discretion (LSD) cases are identified. Cobham (2023b) has implemented a three-way split of these cases on the basis of the effectiveness of the instruments in use (since insufficient information is available on the objectives).

[5] These numbers include the 'exchange rate fixing' discussed in the next paragraph as well as 'exchange rate targeting'. See Table 3 for the full numbers. In practice the two end-categories are easier to pinpoint, and a large number of intermediate loosely structured discretion (LSD) cases are identified. Cobham (2023b) has implemented a three-way split of these cases on the basis of the effectiveness of the instruments in use (since insufficient information is available on the objectives).

authority which dominates forex transactions, and an exchange rate 'target' where the authority tries to control the rate, within less narrow margins, in an autonomous forex market by adjusting its policy interest rate and communicating its intentions and expectations as well as by selling or buying foreign exchange. The classification then differentiates between 'pure' exchange rate fixes where no actual monetary policy is implemented and 'augmented' fixes where some element of policy is in operation. The 'full menu' of MPFs is completed by the inclusion of multiple direct controls (the monetary arrangements in command economies), currency boards (also divided between pure and augmented[6]), currency union membership and use of another sovereign's currency (dollarisation or euroisation). The latter two categories imply no national monetary policy framework and are omitted from the MPF aggregations discussed below where, instead of the former, the MPFs of the currency unions themselves are included. Finally, on the principle that where further information is readily available from the investigation then it should be provided (even if it is not of enormous interest), the classification distinguishes between stationary and converging targets and between a range of different types of mixed targets (targets for two or more out of the three of exchange rate, money, and inflation).

The overall result is a set of 32 different possible MPFs, as set out in Table 1. This is clearly too many for most purposes, and it should be noted that three of them have zero incidence in this dataset—full converging exchange rate targeting, money with inflation targeting and inflation with money targeting—while another 16 MPFs have incidence of less than 1%. However, the project itself suggests two aggregations of MPFs—by target variable, on the one hand, and by the degree of monetary control involved, on the other—and leaves it open to the user to implement any other preferred aggregation. As Table 2 shows, the target variable (TV) aggregation essentially puts together each of the different types of inflation or exchange rate or monetary or mixed targets into a single category of inflation or exchange rate or monetary or mixed targeting, and retains the three types of discretion. The degree of control (DOC) aggregation puts all 'loose' targeting (of whatever variable) and loosely structured discretion in a 'substantial' category and all 'full' targeting and well structured discretion in an 'intensive' category, with other MPFs divided between 'rudimentary' and 'intermediate'.

The main sources for the classification are the Article IV reports from the IMF's regular (mostly annual or biennial) consultations with its members (including Recent Economic Developments and Selected Issues papers as well as Staff Reports[7]), supplemented in some cases by central bank data, central bank papers and academic papers of various kinds. All sources have to be read critically, but experience confirms that the information required – on targets and outturns, on instruments and

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[6] In that case the distinction has much in common with that made by Wolf et al., (2008, chapter 2) between 'early' and 'modern' currency boards.

[7] For a single country over the 44 year period typically sections of around 60 different reports need to be consulted.
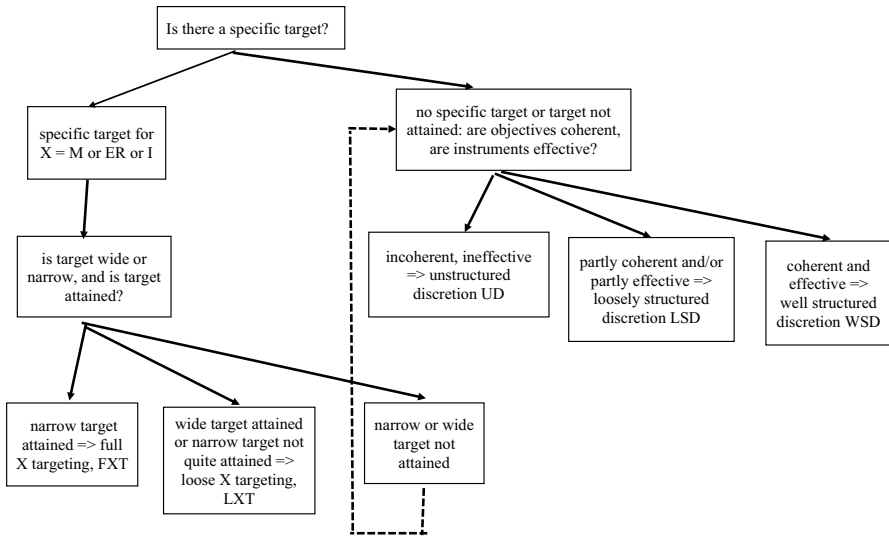
Fig. 1 Algorithm for the classification of the main MPFs

the financial markets required for their operations, and on policymakers' preferences and arguments – can in most cases be obtained from these sources.[8]

The CMPF website https://monetaryframeworks.org/ makes a wide range of information available and accessible. The 'Classifications' page allows the user to look at and/or download spreadsheets that list the MPF classification by country/ year, in terms of the 'full menu' of 32 frameworks or the TV or DOC aggregations, for the whole (global) sample or for various groupings. The 'Countries' page provides links to tables for each country which explain in note form the targets and their attainment and hence the rationale for the classification, including—especially for developing countries in the loosely structured discretion category—significant detail on the instruments available (and the financial markets in operation), together with relevant page references to the IMF and other sources. The 'Visualisations' page allows the user to create graphs of the MPFs for various different groups of countries, for different aggregations of the MPFs, and weighted by number or GDP or population of countries.

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[8] It is also worth noting that the IMF's analysis and recommendations are, in the later years at least, country-specific rather than 'one size fits all', and that, again more in the later years, a surprising number of countries have felt able to disagree, sometimes quite sharply and repeatedly, with those recommendations.

3 The global trends

Tables 3, 4 show the distribution of MPFs across the world, in terms of the full 32-category menu and the TV and DOC aggregations, using four subperiods: 1974–1984 (post-Bretton Woods), 1985–1998 (Great Moderation but pre-European Monetary Union, EMU), 1999–2007 (Great Moderation with EMU) and 2008–2017 (Global Financial Crisis, GFC, and its aftermath). Figures 2 and 3 show the year-by-year trends in MPFs on the TV and DOC aggregations. From Fig. 2 it is clear that there has been a large decline over time in exchange rate fixing and exchange rate targeting, from over half of the countries to around a quarter, with the change concentrated in the 1970s and 1980s; there is a large rise in loosely structured discretion to around 45% of countries, a rise also concentrated in the first half of the period; and there is a growth of inflation targeting from the early 1990s to around 21% of all countries/currency areas. Multiple direct controls and unstructured discretion are important up to some point in the 1990s but decline strongly thereafter. Monetary targeting is never very important. This is typically not because countries did not attempt it but because they did not succeed in attaining the targets consistently,[9, 10] Mixed targeting is low-frequency, mainly undertaken by countries for short periods prior to adopting the euro (for which a number of different Maastricht criteria had to be fulfilled). Figure 3 shows sustained falls in rudimentary and intermediate, and sustained rises in substantial and intensive, MPFs. All these broad trends were previously identified in advanced and, though less strongly, in emerging economies by Cobham (2021), and it is now clear that they can be found at the wider global level too, but as the next section shows there are important differences between regions.

An alternative perspective on the global trends is shown in Table 5, which sets out the number of episodes and the average duration for each MPF in the TV and DOC aggregations, together with the incidence of each in various years.[11] For the TV Aggregates, the MPFs with the largest number of episodes over the whole period are loosely structured discretion, exchange rate fixing and unstructured discretion. Those with the highest average durations are currency union, exchange rate targeting, loosely structured discretion, and exchange rate fixing, followed by multiple direct controls, inflation targeting (which became common only in the second half of the period) and use of another sovereign's currency.[12] However, the data in

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[9] The UK, for example, is not classified as a monetary targeter in any period for this reason. It is striking that countries targeting inflation have hit their targets much more consistently than those trying to target money.

[10] Reserve money programming is not considered as a separate MPF or as monetary targeting because it is not clear that reserve money targets (or associated net domestic or foreign assets targets) were typically publicised in a way that would affect expectations, and in any case reserve money targets were almost always poorly attained – see e.g. IMF (2014, pp13-20; 2015, pp17, 51–4) and mentions of reserve money in country details.

[11] Data on duration for the full menu of MPFs can be found in Table A1 of the Data Appendix of Cobham (2023a).

[12] This ignores the high duration of Xs ('no country'), which are due mainly to the significant number of countries which did not exist until the dissolution of the USSR and Yugoslavia (and those two countries after their dissolution), plus latecomers to independence such as South Sudan and Timor-Leste.

Table 1 The categories of the classification (full menu) *Source:* Cobham (2021)

	Full name	Acronym	Definition
1	Multiple direct controls	MDC	Multiple exchange rates and/or controls on direct lending, interest rates, etc
2	Pure exchange rate fix	PERF	Exchange rate fixed purely by intervention, no monetary instruments in use
3	Augmented exchange rate fix	AERF	Exchange rate fixed by intervention, some basic monetary instruments in use
4	Pure currency board	PCB	Domestic currency 100% backed by foreign currency, no monetary instruments in use
5	Augmented currency board	ACB	Domestic currency 100% backed by foreign currency, basic monetary instruments in use
6	Loose converging exchange rate targeting	LCERT	Converging narrow targets not well hit or wider targets attained
7	Loose exchange rate targeting	LERT	Narrow stationary targets not well hit or wider targets attained
8	Full converging exchange rate targeting	FCERT	Narrow announced converging targets typically attained
9	Full exchange rate targeting	FERT	Narrow announced stationary targets typically attained
10	Loose converging monetary targeting	LCMT	Converging narrow targets not well hit or wider targets attained
11	Loose monetary targeting	LMT	Narrow stationary targets not well hit or wider targets attained
12	Full converging monetary targeting	FCMT	Narrow announced converging targets typically attained
13	Full monetary targeting	FMT	Narrow announced stationary targets typically attained
14	Loose converging inflation targeting	LCIT	Converging narrow targets not well hit or wider targets attained
15	Loose inflation targeting	LIT	Narrow stationary targets not well hit or wider targets attained
16	Full converging inflation targeting	FCIT	Narrow announced converging targets typically attained
17	Full inflation targeting	FIT	Narrow announced stationary targets typically attained
18	Monetary with exchange rate targeting	MwERT	Monetary targets and exchange rate fixes or targets, monetary dominant
19	Exchange rate with monetary targeting	ERwMT	Monetary targets and exchange rate fixes or targets, exchange rate dominant
20	Monetary plus exchange rate targeting	M&ERT	Monetary targets and exchange rate fixes or targets, primacy unclear
21	Monetary with inflation targeting	MwIT	Monetary and inflation targets, monetary dominant
22	Inflation with monetary targeting	IwMT	Monetary and inflation targets, inflation dominant
23	Monetary plus inflation targeting	M&IT	Monetary and inflation targets, primacy unclear
24	Inflation with exchange rate targeting	IwERT	Inflation targets and exchange rate (fixes or) targets, inflation dominant
25	Exchange rate with inflation targeting	ERwIT	Inflation targets and exchange rate (fixes or) targets, exchange rate dominant
26	Inflation plus exchange rate targeting	I&ERT	Inflation targets and exchange rate (fixes or) targets, primacy unclear
27	Exchange rate, monetary, inflation targeting	ER&M&IT	Three full targets (or fixes), whichever dominant

Table 1 (continued)

	Full name	Acronym	Definition
28	Unstructured discretion	UD	Ineffective set of instruments *and* incoherent mix of objectives
29	Loosely structured discretion	LSD	Instruments not effective *or* objectives not coherent *or* both only partly so
30	Well structured discretion	WSD	Full and effective set of monetary instruments and coherent set of objectives
31	Use of another sovereign's currency	UASC	Dollarisation or euroisation
32	Currency union membership	CU	Currency union

Table 2 Two useful aggregations *Source*: Cobham (2021)

By target variable	Frameworks	Numbers
Direct controls, MDC	MDC	1
Exchange rate fixing, ERFix	PERF, AERF, PCB	2, 3, 4
Exchange rate targeting, ERTs	ACB, FERT, FCERT, LERT, LCERT	5–9
Monetary targeting, MTs	FMT, FCMT, LMT, LCMT	10–13
Inflation targeting, ITs	FIT, FCIT, LIT, LCIT	14–17
Mixed targets, MixedTs	MwERT, ERwMT, M&ERT, MwIT, IwMT, M&IT, IwERT, ERwIT, I&ERT, ER&M&IT	18–27
Unstructured discretion, UD	UD	28
Loosely structured discretion, LSD	LSD	29
Well structured discretion, WSD	WSD	30
By degree of monetary control		
Rudimentary	MDC, PERF	1, 2
Intermediate	AERF, PCB, UD	3, 4, 28
Substantial	ACB, all LC*T, all FC*T, all L*T, all mixes, LSD	5–8, 10–12, 14–16, 18–27, 29
Intensive	FERT, FMT, FIT, WSD	9, 13, 17, 30

the righthand columns for the incidence in particular years shows the rise and then decline over time in loosely structured discretion and exchange rate targeting, the rises in inflation targeting and currency unions, and the fall and then stagnation in exchange rate fixing. Among the DOC aggregates, the highest average duration is that of substantial MPFs followed by intensive, though the latter remain a relatively small proportion of the total, while rudimentary MPFs all but disappear and intermediate ones decline.

The figures presented so far relate to the number of countries, that is, they treat, say, the US and Malta, or China and Vanuatu, equally, but it might sometimes be important to know what proportions of world economic activity or of population were covered by which MPF. Figure 4 shows the trends in the TV aggregation weighted by GDP. As expected (since inflation targeting is more common in advanced and emerging economies), the share of ITs from the mid-1990s is much higher, at over 70% in the last decade or so, while the share of loosely structured discretion is around a quarter or less from 1996, when the US moved from loosely structured discretion to become a 'loose' inflation targeter on the CMPF classification. Figure 5 shows the trends weighted by population: with India under loosely structured discretion for most of the period and China since 1994, the share of loosely structured discretion is much higher and that of inflation targeting much lower, even after India adopted inflation targets in 2014.

Table 3 Global incidence of frameworks by category and period, full menu *Source*: author's calculations

	1974–2017		1974–1984		1985–1998		1999–2007		2008–2017	
	No.	%	No.	%	No.	%	No.	%	No.	%
X	757		359		284		60		54	
MDC	308	4.15	196	11.62	89	3.84	13	0.81	10	0.55
PERF	8	0.11	8	0.47	0	0.00	0	0.00	0	0.00
AERF	1080	14.54	514	30.47	246	10.60	144	8.92	176	9.75
PCB	160	2.15	46	2.73	43	1.85	36	2.23	35	1.94
ACB	171	2.30	21	1.24	57	2.46	48	2.97	45	2.49
LCERT	29	0.39	7	0.41	19	0.82	3	0.19	0	0.00
LERT	308	4.15	95	5.63	103	4.44	59	3.66	51	2.82
FCERT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
FERT	335	4.51	26	1.54	126	5.43	97	6.01	86	4.76
LCMT	24	0.32	11	0.65	9	0.39	4	0.25	0	0.00
LMT	51	0.69	21	1.24	15	0.65	5	0.31	10	0.55
FCMT	14	0.19	10	0.59	4	0.17	0	0.00	0	0.00
FMT	11	0.15	3	0.18	8	0.34	0	0.00	0	0.00
LCIT	77	1.04	0	0.00	12	0.52	36	2.23	29	1.61
LIT	240	3.23	0	0.00	24	1.03	78	4.83	138	7.64
FCIT	9	0.12	0	0.00	0	0.00	7	0.43	2	0.11
FIT	277	3.73	0	0.00	31	1.34	85	5.27	161	8.91
MwERT	39	0.53	22	1.30	14	0.60	3	0.19	0	0.00
ERwMT	16	0.22	0	0.00	14	0.60	2	0.12	0	0.00
M&ERT	15	0.20	2	0.12	13	0.56	0	0.00	0	0.00
MwIT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
IwMT	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
M&IT	2	0.03	0	0.00	2	0.09	0	0.00	0	0.00
IwERT	14	0.19	0	0.00	4	0.17	2	0.12	8	0.44

Table 3 (continued)

|	1974–2017		1974–1984		1985–1998		1999–2007		2008–2017	
	No.	%	No.	%	No.	%	No.	%	No.	%
ERwIT	6	0.08	0	0.00	3	0.13	3	0.19	0	0.00
I&ERT	8	0.11	0	0.00	4	0.17	3	0.19	1	0.06
ER&M&IT	2	0.03	0	0.00	2	0.09	0	0.00	0	0.00
UD	703	9.47	248	14.70	354	15.26	61	3.78	40	2.21
LSD	2449	32.97	279	16.54	900	38.79	645	39.96	625	34.61
WSD	12	0.16	0	0.00	0	0.00	2	0.12	10	0.55
UASC	208	2.80	56	3.32	41	1.77	45	2.79	66	3.65
CU	851	11.46	122	7.23	183	7.89	233	14.44	313	17.33
Totals	8184	100.0	2046	100.0	2604	100.0	1674	100.0	1860	100.0

Percentages are of total minus the Xs, which are cases where the country/currency area does not (yet or any longer) exist as a separate entity

Table 4 Global incidence of TV and DOC framework aggregations, by period *Source*: author's calculations

TV	1974–2017		1974–1984		1985–1998		1999–2007		2008–2017	
	No.	%	No.	%	No.	%	No.	%	No.	%
MDC	308	4.84	196	12.99	89	4.25	13	0.97	10	0.70
ER fix	1248	19.60	568	37.64	289	13.79	180	13.47	211	14.79
ERTs	843	13.24	149	9.87	305	14.55	207	15.49	182	12.75
MTs	100	1.57	45	2.98	36	1.72	9	0.67	10	0.70
ITs	603	9.47	0	0.00	67	3.20	206	15.42	330	23.13
Mixed Ts	102	1.60	24	1.59	56	2.67	13	0.97	9	0.63
UD	703	11.04	248	16.43	354	16.89	61	4.57	40	2.80
LSD	2449	38.46	279	18.49	900	42.94	645	48.28	625	43.80
WSD	12	0.19	0	0.00	0	0.00	2	0.15	10	0.70
Totals	6368	100.00	1509	100.00	2096	100.00	1336	100.00	1427	100.00
DOC										
Rudimentary	316	4.96	204	13.52	89	4.25	13	0.97	10	0.70
Intermediate	1943	30.51	808	53.55	643	30.68	241	18.04	251	17.59
Substantial	3474	54.55	468	31.01	1199	57.20	898	67.22	909	63.70
Intensive	635	9.97	29	1.92	165	7.87	184	13.77	257	18.01
Totals	6368	100.00	1509	100.00	2096	100.00	1336	100.00	1427	100.00

Percentages are of the total minus the sum of the Xs (cases where the country/currency area does not (yet) exist as a separate entity) plus the UASCs and the CUs (where the country has no specific national monetary policy framework)
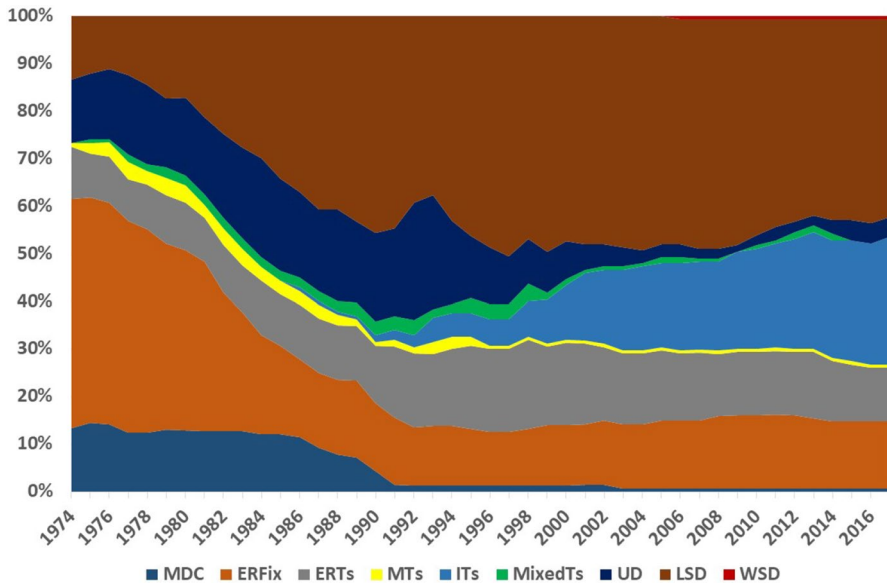
Fig. 2 Target variable aggregation, whole world
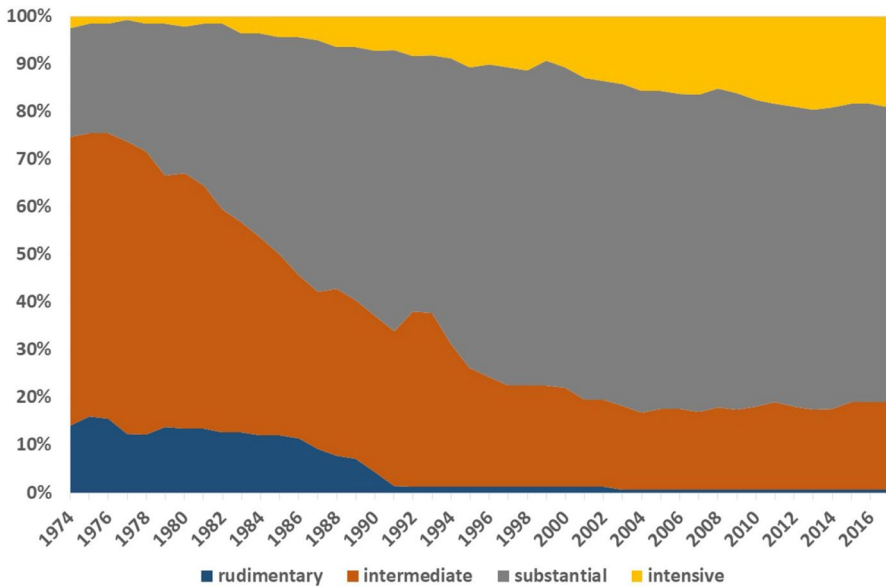
Fig. 3 Degree of control aggregation, whole world

Comparable graphs for the DOC aggregation show that intensive MPFs have been much more important in GDP than in population terms, while rudimentary and intermediate MPFs are more important in population terms.[13]

Tables 6, 7, 8 focus on the transitions between target variable MPFs, that is, the change from one period to the next for each country in the dataset. Table 6 shows the transitions from the MPFs listed on the left to the MPFs listed across the table. For example, the first cell on the top left shows that on 287 occasions countries in the MDC framework in one year were also in that framework in the following year, while the cell below shows that on two occasions (Ethiopia 1975, Iraq 1982) countries moved from the exchange rate fixing framework to the multiple direct controls framework. The main point that comes out of this table is the importance of no-change, as shown in the diagonal of the table (in bold), which is in line with the emphasis on durations in Table 5: the largest number of no-changes is for loosely structured discretion, followed at a distance by exchange rate fixing, currency unions, exchange rate targeting and no country.

It is more interesting to look at the positive changes, as shown in Tables 7 and 8 which show respectively the number of 'entries', that is movements into a particular MPF from other particular MPFs, as percentage of the total such entries, and the corresponding numbers for 'exits', that is movements out of some particular MPF into other particular MPFs, as percentage of the total such exits. From Table 7 the MPF with the largest number of entries, loosely structured discretion,

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[13] Such graphs can be easily generated from the visualisations page on the website, at https://monetaryframeworks.org/visualisations/.

receives countries mainly from exchange rate fixing and unstructured discretion, while unstructured discretion receives countries mainly from 'no country' (countries emerging from Yugoslavia and the USSR), multiple direct controls and exchange rate fixing. Countries move to inflation targeting mostly from loosely structured discretion, to exchange rate targeting from loosely structured discretion, exchange rate fixing and unstructured discretion, and to currency union mainly from exchange rate targeting and mixed targeting. There is only one entry to well structured discretion. From Table 8 countries move from loosely structured discretion mostly to inflation targeting, but also to exchange rate targeting. They move from unstructured discretion mostly to loosely structured discretion, from exchange rate fixing mostly to loosely structured discretion and unstructured discretion, and from exchange rate targeting to currency union, loosely structured discretion and inflation targeting. There are no exits from currency union or from well structured discretion. Comparable analysis for the DOC aggregation is less interesting: it shows an almost universal monotonic movement, from rude to intermediate to substantial to intensive MPFs.

4 Regions and groups

We now focus on the unweighted incidence of TV and DOC MPFs in six regionally based groupings of countries: the Middle East and North Africa (MENA), Latin America, Asia (excluding advanced countries), Africa, the Caribbean, and Other Europe, Caucasus and Central Asia (OECCA).[14] Figures 6, 7, 8, 9, 10, 11 in the Appendix to this paper present the graphs for each region, with figure (a) showing the TV aggregation and figure (b) the DOC aggregation. The basic data by subperiod can be found in Tables A2-9 in the Data Appendix of the working paper version of this paper, Cobham (2023a), first for the advanced and emerging economies, and then for each of the six regional groupings.

In terms of the TV aggregation, Latin America and MENA represent in some respects the opposite ends of a spectrum: the former has a substantial move towards inflation targeting, while in the latter the largest element is exchange rate pegs (with a movement over time from fixes to targets) and inflation targeting is attempted, with short-lived success, only by Turkey. In between these two Africa has a dominant element of loosely structured discretion, together with a lot of exchange rate fixing, a large but declining share of unstructured discretion and a very small amount of inflation targeting. Asia has rather less loosely structured discretion, less exchange rate fixing and slightly more inflation targeting, plus some sustained monetary targeting. The Caribbean is dominated by exchange rate fixing and exchange rate targeting, with inflation targeting only in one country towards the end of the period. Finally, the OECCA group (where there were only three separate countries before 1991) has initially a lot of multiple direct controls,

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[14] Because the dividing line between emerging and developing countries is largely arbitrary (and time-dependent), based here on Laurens et al. (2009), the regional groupings include countries already covered in the emerging economies category (but not those from the advanced category).

Table 5 Global duration and periodic incidence of TV and DOC frameworks *Source*: author's calculations

TV	Episodes	Duration	Average duration	1974	1986	1998	2007	2017
MDC	21	308	14.67	17	16	2	1	1
ER fix	80	1248	15.60	61	23	19	21	20
ERTs	44	843	19.16	14	16	30	21	16
MTs	10	100	10.00	1	4	1	1	1
ITs	45	603	13.40	0	1	12	27	38
Mixed Ts	12	102	8.50	0	3	6	1	0
UD	78	703	9.01	17	25	15	3	6
LSD	138	2449	17.75	17	52	75	71	59
WSD	1	12	12.00	0	0	0	1	1
DOC								
Rudimentary	24	316	13.17	18	16	2	1	1
Intermediate	144	1943	13.49	77	48	34	24	26
Substantial	154	3474	22.56	29	70	106	98	89
Intensive	44	635	14.43	3	6	18	24	26
No national framework								
X	45	757	16.82	40	30	10	6	5
UASC	16	208	13.00	8	3	2	6	6
CU	33	851	25.79	11	13	14	27	33

Average duration equals duration divided by episodes

and later a lot of discretion, some exchange rate fixing and exchange rate targeting, some use of another sovereign's currency and some inflation targeting.

In terms of the DOC aggregation, in all groups there is a move away from rudimentary and intermediate towards substantial and intensive MPFs. By the end of the period Latin America has MPFs that are 50% substantial and 20% intensive; MENA 42% and 37%; Africa 68% and 3%; Asia 69% and 12%; Caribbean 75% and 0%; and OECCA 87% and 0%.

We now turn to a more detailed examination of developments in each region, in which we try to identify sub-regional patterns in which groups of countries have moved in the same way over time. Figures 6, 7, 8, 9, 10, 11 in the Appendix show the TV and DOC aggregations for each region. We focus here on the TV aggregation.

4.1 Middle East and North Africa

At the start of the period all the Gulf countries but also Iraq, Jordan, Libya, Morocco and the two (north and south) Yemens—12 out of 20 countries—were pegging their exchange rates in one way or another. Over time the six Gulf countries (except for Oman which continued to fix) plus Jordan and (after a period of loosely structured discretion) Morocco moved from fixing to targeting their exchange rates, and Lebanon joined in from 1993. Algeria, Egypt and Syria, and later Iraq, had episodes of
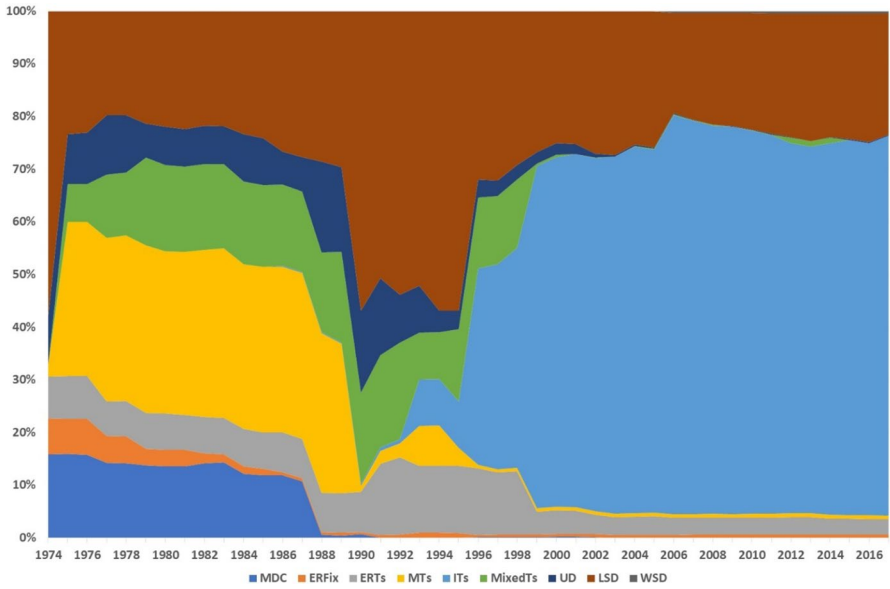
Fig. 4 Target variable aggregation, whole world, weighted by GDP
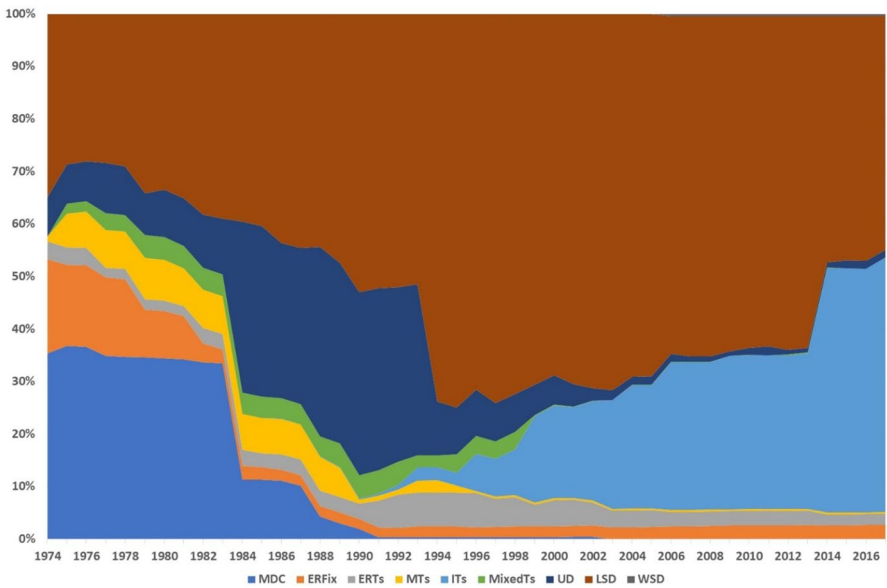
Fig. 5 Target variable aggregation, whole world, weighted by population

multiple direct controls, typically followed by years of unstructured discretion and then loosely structured discretion. Sudan started with unstructured discretion and

Table 6 Movements from each MPF to each other MPF *Source*: author's calculations

From/to	MDC	ERFix	ERTs	MTs	ITs	MixedTs	UD	LSD	WSD	UASC	CU	NOCO
MDC	**287**	0	0	0	0	0	15	5	0	0	0	0
ERFix	2	**1167**	8	2	0	0	12	35	0	0	1	1
ERTs	0	1	**799**	0	4	0	2	9	1	0	11	0
MTs	0	0	0	**90**	0	2	0	7	0	0	0	0
ITs	0	0	0	0	**558**	2	0	5	0	0	0	0
MixedTs	0	0	1	1	3	**90**	0	0	0	0	7	0
UD	1	2	8	0	0	1	**625**	55	0	2	1	2
LSD	0	5	12	6	37	7	8	**2311**	0	1	1	2
WSD	0	0	0	0	0	0	0	0	**11**	0	0	0
UASC	0	4	0	0	0	0	3	2	0	**192**	1	0
CU	0	0	0	0	0	0	0	0	0	0	**818**	0
NOCO	1	8	1	0	1	0	21	3	0	5	0	**712**
Totals	291	1187	829	99	603	102	686	2432	12	200	840	717

NOCO = no country (X), i.e. either a country does not exist as a separate independent entity, because it is a colony or a part of a larger group such as Yugoslavia, the USSR or Czechoslovakia, or because it has merged into a larger grouping (e.g. the two Yemens)

moved to loosely structured discretion, while Iran started with loosely structured discretion, moved to unstructured discretion from 1980 and then back to loosely structured discretion in 1999. The unified Yemen (from 1990) went from unstructured discretion to loosely structured discretion and then later back to unstructured discretion. Overall, loosely structured discretion became roughly as frequent as exchange rate fixing plus exchange rate targeting. The only country which tried inflation targeting was Turkey, but it twice ceased to attain its targets and was reclassified as loosely structured discretion.[15]

4.2 Latin America

Most Latin American countries were doing exchange rate fixing at the beginning of the period, as they had done in the Bretton Woods years, while some—particularly the larger countries—were operating under unstructured discretion. In the first half of the 1980s a number of countries moved from exchange rate fixing to unstructured discretion, which peaked in 1984–1985, after which many countries began to switch from unstructured discretion to loosely structured discretion. The latter became and remained the most frequent category until 2011 when it was overtaken by inflation targeting. Chile had embarked on inflation targeting in 1991, very early by international standards, and it was joined from the late 1990s by Mexico, Colombia, Peru and Brazil, and later by Guatemala, Paraguay and Costa Rica. Thus most of the larger economies other than Argentina (which went from unstructured discretion to

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[15] Egypt, Morocco and Tunisia all talked about inflation targeting but never took the plunge.

Table 7 Percentage of entries to each MPF from each other MPF *Source:* author's calculations

From/to	MDC	ERFix	ERTs	MTs	ITs	MixedTs	UD	LSD	WSD	UASC	CU	NOCO
MDC		0.00	0.00	0.00	0.00	0.00	24.59	4.13	0.00	0.00	0.00	0.00
ERFix	50.00		26.67	22.22	0.00	0.00	19.67	28.93	0.00	0.00	4.55	20.00
ERTs	0.00	5.00		0.00	8.89	0.00	3.28	7.44	100.00	0.00	50.00	0.00
MTs	0.00	0.00	0.00		0.00	16.67	0.00	5.79	0.00	0.00	0.00	0.00
ITs	0.00	0.00	0.00	0.00		16.67	0.00	4.13	0.00	0.00	0.00	0.00
MixedTs	0.00	0.00	3.33	11.11	6.67		0.00	0.00	0.00	0.00	31.82	0.00
UD	25.00	10.00	26.67	0.00	0.00	8.33		45.45	0.00	25.00	4.55	40.00
LSD	0.00	25.00	40.00	66.67	82.22	58.33	13.11		0.00	12.50	4.55	40.00
WSD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00
UASC	0.00	20.00	0.00	0.00	0.00	0.00	4.92	1.65	0.00		4.55	0.00
CU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
NOCO	25.00	40.00	3.33	0.00	2.22	0.00	34.43	2.48	0.00	62.50	0.00	
Number of entries	4	20	30	9	45	12	61	121	1	8	22	5

NOCO = no country (X), i.e. either a country does not exist as a separate independent entity, because it is a colony or a part of a larger group such as Yugoslavia, the USSR or Czechoslovakia, or because it has merged into a larger grouping (e.g. the two Yemens)

Table 8 Percentage of exits from each MPF to each other MPF *Source*: author's calculations

From/to	MDC	ERFix	ERTs	MTs	ITs	MixedTs	UD	LSD	WSD	UASC	CU	NOCO	Number of exits
MDC		0.00	0.00	0.00	0.00	0.00	75.00	25.00	0.00	0.00	0.00	0.00	20
ERFix	3.28		13.11	3.28	0.00	0.00	19.67	57.38	0.00	0.00	1.64	1.64	61
ERTs	0.00	3.57		0.00	14.29	0.00	7.14	32.14	3.57	0.00	39.29	0.00	28
MTs	0.00	0.00	0.00		0.00	22.22	0.00	77.78	0.00	0.00	0.00	0.00	9
ITs	0.00	0.00	0.00	0.00		28.57	0.00	71.43	0.00	0.00	0.00	0.00	7
MixedTs	0.00	0.00	8.33	8.33	25.00		0.00	0.00	0.00	0.00	58.33	0.00	12
UD	1.39	2.78	11.11	0.00	0.00	1.39		76.39	0.00	2.78	1.39	2.78	72
LSD	0.00	6.33	15.19	7.59	46.84	8.86	10.13		0.00	1.27	1.27	2.53	79
WSD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0
UASC	0.00	40	0.00	0.00	0.00	0.00	30	20	0.00		10	0.00	10
CU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0
NOCO	2.5	20	2.5	0.00	2.5	0.00	52.5	7.5	0.00	12.5	0.00		40

NOCO=no country (X), i.e. either a country does not exist as a separate independent entity, because it is a colony or a part of a larger group such as Yugoslavia, the USSR or Czechoslovakia, or because it has merged into a larger grouping (e.g. the two Yemens)

eleven years of augmented currency board before moving to loosely structured discretion) and also some of the smaller economies ended up in the inflation targeting category, while other smaller economies fixed their exchange rates (Belize, Nicaragua) or dollarised (Ecuador, El Salvador; Panama had been dollarised for decades) or used a variety of instruments to pursue a variety of objectives in loosely structured discretion (Bolivia, Guyana, Honduras, Suriname and Uruguay). Venezuela (also a relatively large economy) unusually reverted in 2010 from loosely structured discretion to unstructured discretion.

4.3 Asia

At the beginning 9 out of the then total of 22 countries were fixing their exchange rates, but that dropped over the next decade as many of them moved to loosely structured discretion; Brunei and Macao continued to fix and were joined by Vanuatu, Bhutan and (with an interval of loosely structured discretion) the Maldives. There was little exchange rate targeting. Inflation targeting was undertaken from 2000 by Thailand, joined later by the Philippines and Indonesia, and later still by India. Multiple direct controls were used in the 1970s and 1980s by China, Mongolia, Myanmar, Vietnam and Laos, followed (in some cases after a period of unstructured discretion) by loosely structured discretion. The latter was the commonest category from 1978 onwards and accounted for half or more of the MPFs in Asia from 1985 onwards, covering the larger economies such as Bangladesh, China and Pakistan (and Indonesia and India before they moved to inflation targeting), but also many smaller countries. Korea (Democratic Republic) used multiple direct controls throughout. Taiwan undertook loose monetary targeting from 1993. Timor-Leste used the USD as its currency from its independence in 2002. Malaysia is the only country in the entire sample that is classified as well structured discretion, from 2006.

4.4 Africa

At the beginning of the period African monetary frameworks were dominated by exchange rate fixing: that was the MPF in a wide range of countries from Burundi to Zambia. Eswatini and Lesotho (and later Namibia) fixed their currencies to the South African rand, the *Communauté française d'Afrique* (CFA) monetary unions of central and west Africa (Central African Economic and Monetary Community, CAEMC, and West African Economic and Monetary Union, WAEMU) fixed to the French franc (and later the euro), and other countries fixed to the GBP or the USD or the SDR. By the mid-1980s the number of exchange rate fixes had fallen from the mid-20s to the low teens (out of around 40 countries or currency areas with separate MPFs), and it remained around 10 for the rest of the period, as most former British colonies and some other countries moved from exchange rate fixing to loosely structured discretion, which became the most frequent category from the mid-1980s, while a few other countries joined or rejoined the CFA monetary unions. There were a few examples of multiple direct controls in the first decade, but after that only

Ethiopia continued to use direct controls. There are some examples of unstructured discretion, mainly in countries that were moving away from multiple direct controls or suffered conflicts or crises of different kinds. And there is one (pure) currency board, in Djibouti from its independence in 1977. Inflation targeting was pursued in South Africa from 2003, and in Uganda from 2013.[16]

4.5 Caribbean

At the beginning of the period six countries included in the classification[17] were fixing their exchange rates, the East Caribbean Currency Union (ECCU) was operating a (pure) currency board, and Cuba was using multiple direct controls. Initially most of the first seven of these, and by 1976 all of them, were anchored on the USD. Bahamas and Barbados continued to fix throughout. Jamaica moved early to loosely structured discretion and tried a variety of exchange rate arrangements before embarking on gradual monetary reforms which led eventually to preparations for inflation targeting. The Dominican Republic had a comparable but briefer period of loosely structured discretion before embarking on inflation targeting in 2012. The ECCU's currency board went from 'pure' to 'augmented' as it began to operate a somewhat more active and development-oriented monetary policy. Trinidad and Tobago moved to loosely structured discretion for a few years but then back to loose exchange rate targeting. Haiti's exchange rate fix became unsustainable under the impact of central bank financing of government deficits, political instability and natural disasters. Cuba had a difficult period of unstructured discretion in the early 1990s before moving to loosely structured discretion.

4.6 Other Europe, Caucasus and Central Asia

Albania and the USSR used direct controls up till the late 1980s, while Yugoslavia operated loosely structured discretion. Political change came to Albania in 1990, and both the USSR and Yugoslavia dissolved in 1991, with eleven former USSR republics and five former parts of Yugoslavia obtaining their independence (not in all cases immediately).[18] All of these countries had a few years of unstructured discretion. By the mid-1990s many were in loosely structured discretion, and most of those stayed there. Bosnia & Hercegovina and, later, Turkmenistan moved to fixing their exchange rates, while North Macedonia and, for some years, Ukraine targeted their exchange rates. Montenegro and Kosovo, which became independent rather

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[16] Ghana set formal but 'lite' inflation targets from 2007, but failed to attain them consistently.

[17] A number of other Caribbean countries are too small (population less than 250,000) to be included, but the East Caribbean Currency Union meets the criterion when each of its members' populations are aggregated together.

[18] Croatia and Slovenia also came out of Yugoslavia; they are considered under emerging economies.

later, used the Deutsche mark and then the euro. Albania moved to ITs in 2000, followed later by Serbia and Armenia and, briefly, Moldova.

4.7 The choice of monetary policy framework

How should we understand these different trends? Cobham and Song (2020) investigated the choice of MPF for advanced and emerging economies, and there is some recent work on emerging and developing economies by Sullivan (2023). On the basis of these and other works some key factors in the choice of MPF can be identified. First, for the earlier part of the period it is clear that history, in the form of the Bretton Woods system, matters, and for Africa, in particular, the colonial heritage is important: many countries continued to operate for at least the first few years after independence the currency boards or other peg arrangements introduced (for their own purposes) by their colonial rulers, which could be seen as minimising operating costs but restricting economic policy. In Africa former UK colonies tended to move quite quickly away from those arrangements, but France agreed some Africanisation and some minor easing of the reserve requirements, and most of its former colonies stayed with the revised arrangements (Masson & Pattillo, 2005, pp. 21-4). Second, the factor that has been most strongly emphasised in the literature on the choice of exchange rate regime (e.g. Juhn & Mauro, 2002; Levy Yeyati, Sturzenegger and Reggio, 2010) is that of size: small countries are more likely to peg and larger more likely to float in some form. This looks relevant for many Caribbean and Pacific islands, in particular, but also for a range of smaller countries in other regions, while the decision to use another sovereign's currency is also likely to be related to size. Third, Meissner and Oomes (2009), Cobham and Song (2020) and Sullivan (2023) have emphasised the related issue of the concentration of a country's trade on a single currency bloc as a reason for pegging (to that currency), and for many developing countries that concentration reflects the colonial experience.[19] Fourth, Cobham and Song (2020) have emphasised the importance of financial market development, with particular emphasis on the depth of government bond markets that allow non-monetary financing of fiscal deficits and the depth of interbank money markets that make it possible for the monetary authorities to operate more flexibly through interest rates rather than direct monetary instruments and therefore to choose to pursue inflation targets, for example (these issues also come through strongly in the IMF reports and in the details on the country pages of the website).[20] Fifth, unstructured discretion is associated on the one hand with autocratic and military regimes which

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[19] Dummy variables for previous and existing colonial relationships are typically very significant in gravity models of trade, e.g. Rose (2000).

[20] There is a possible endogeneity issue here: the lack of these financial markets could prevent a country from moving to indirect monetary instruments and related MPFs, but it could also be that a country which did not wish (for other reasons) to move to such MPFs could choose not to establish such markets.

intervene heavily in the economy but do not have the detailed or effective planning mechanisms characteristic of Soviet-type arrangements (which are classified as multiple direct controls), and on the other hand with political instability and conflict. Sixth, it seems likely that countries' past experiences of, for example, inflation and financial crises could affect their choice of MPFs, in one way or another, but modelling this has proved difficult (Sullivan, 2023, p. 32). Finally, the issue of political arrangements is also worth mentioning—Cobham (2022), for example, has related the lack of ITs in the MENA countries, in contrast to Latin America, to the much lower level of democracy in MENA: the argument is that inflation targeting typically requires efforts to influence inflation expectations that require accountability on the part of the central bank, which is more common under democratic arrangements and typically absent under autocracy. An additional argument is that politicians who accept that they will be in government some of the time but in opposition at other times are more likely to favour independent institutions.[21] These are, of course, not the only factors to be considered, and there is scope for more work in this area which would aim to identify the factors underlying the differences between regions.[22]

5 Conclusion

The Comprehensive Monetary Policy Frameworks project now covers 186 countries/currency areas, essentially the whole world, from 1974 to 2017 (and will be updated in due course). It provides a fine classification which can be aggregated along different dimensions into fewer but broader groups of MPFs, together with country details which provide a full and transparent explanation of the individual country classification decisions. It has been designed as a freely available and accessible resource for researchers. It can be used to show the trends over time at global or regional levels, to examine differences in economic performance between MPFs, and to control for differences in monetary policy in investigations of the effects of, for example, the GFC or Covid.

## Appendix: Figures for TV and DOC aggregations by region

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[21] Latin America experienced a major move towards democracy in the second half of the 1980s/early 1990s. It also had a big rise in central bank independence (CBI) in the early 1990s, but Cobham and Song (2020) in their analysis of advanced and emerging economies did not find CBI significant (though that may reflect some endogeneity, with the move to inflation targeting requiring a rise in CBI).

[22] The goal of such analysis should be to include enough control variables to explain the choice of MPF in a wide range of countries without the use of dummy variables for different groupings.

(a) Target variable aggregation for Middle East and North Africa

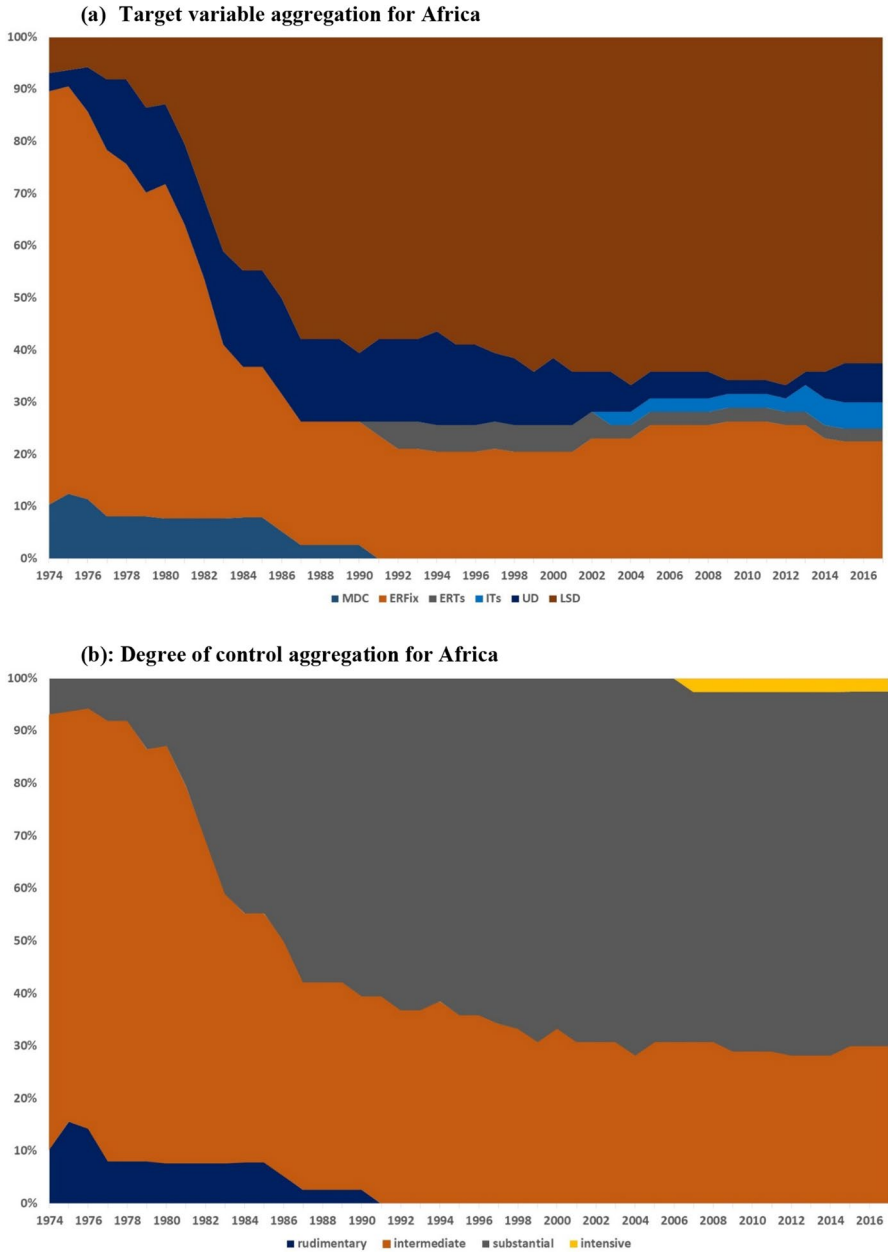**(b) Degree of control aggregation for Middle East and North Africa**
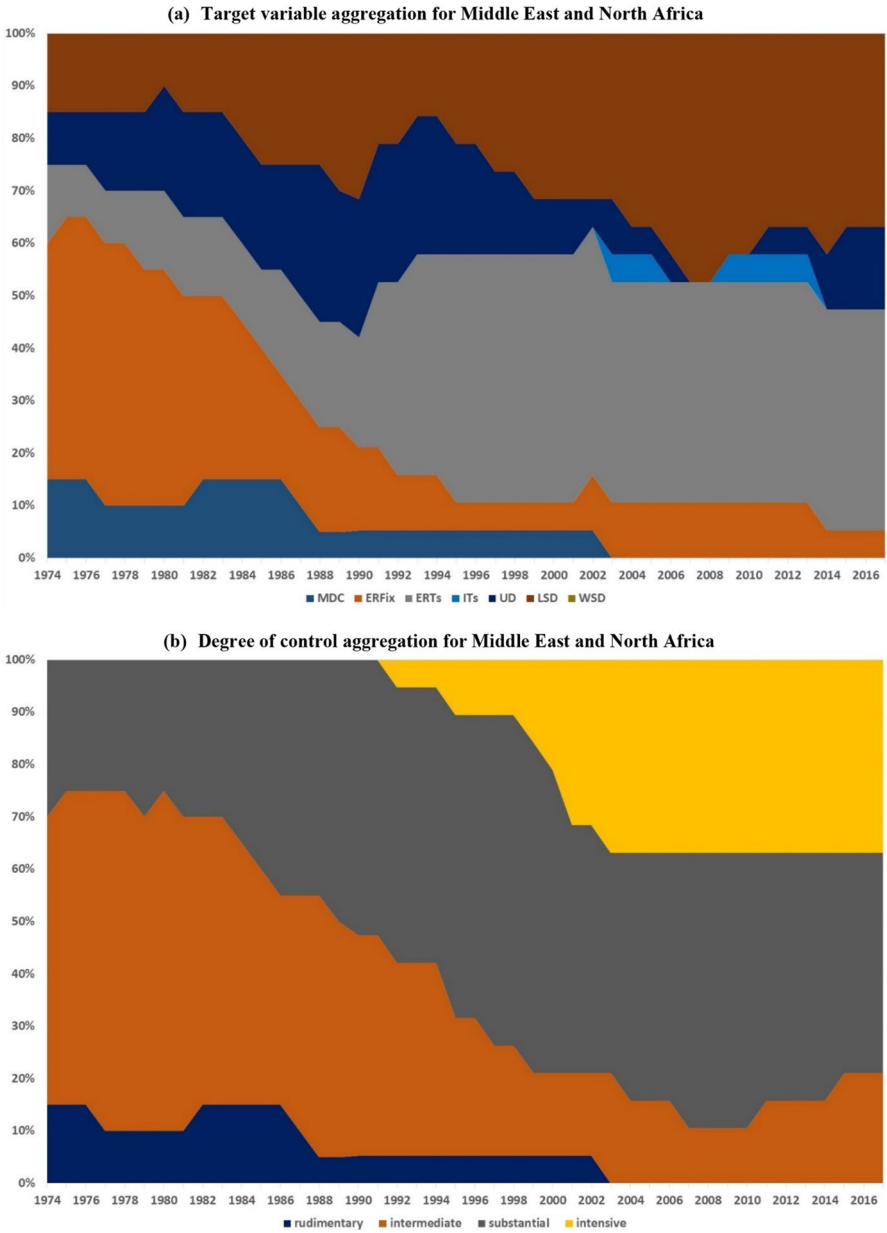
Fig. 6 **a** Target variable aggregation for Middle East and North Africa. **b** Degree of control aggregation for Middle East and North Africa
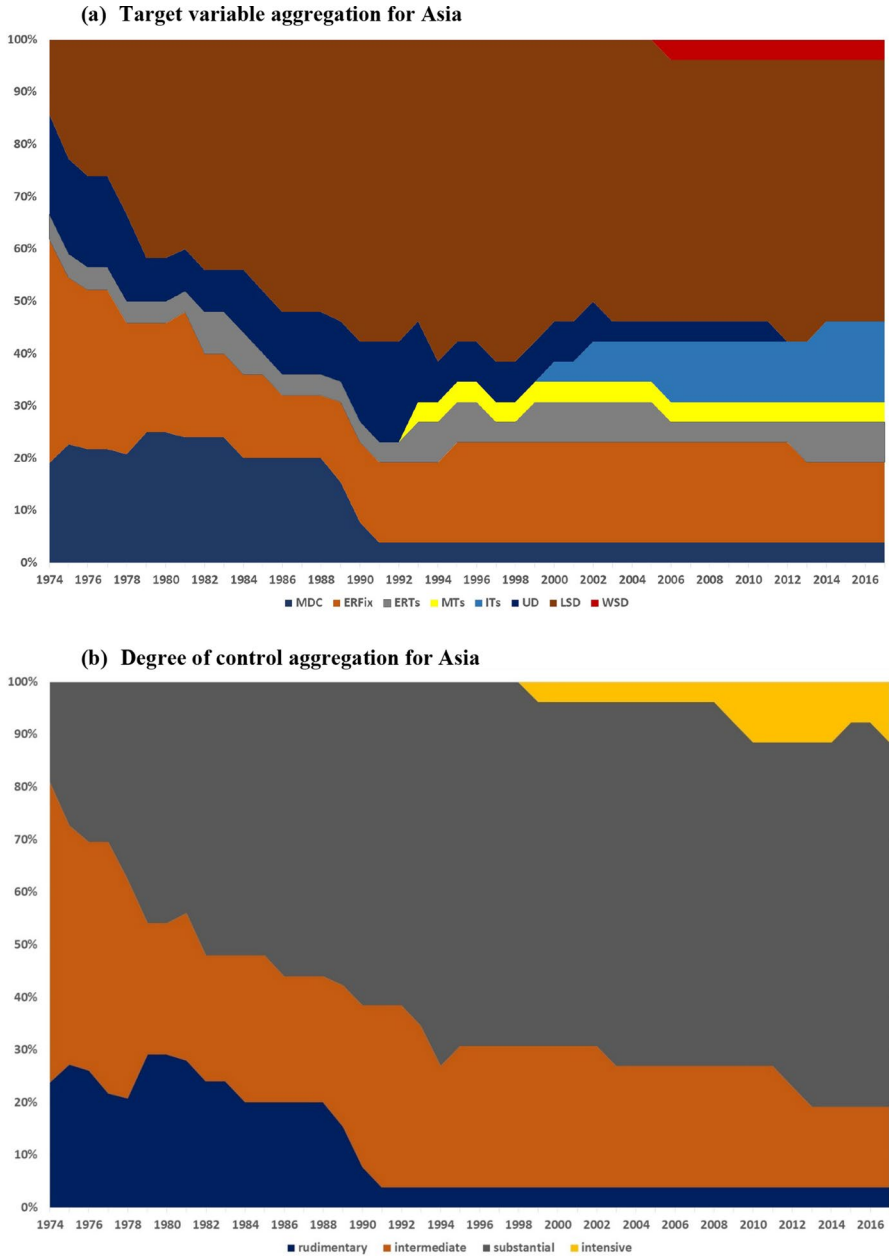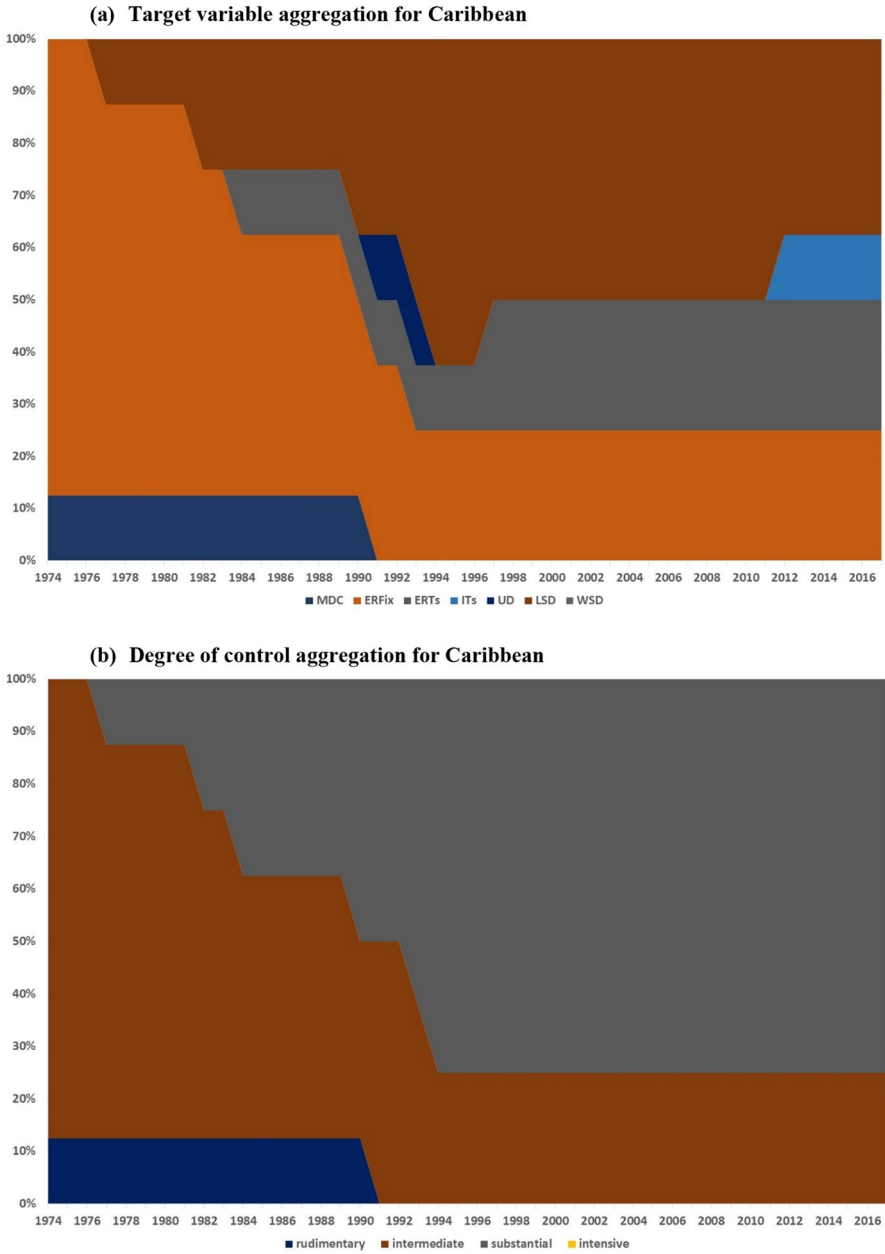
(a) Target variable aggregation for Latin America
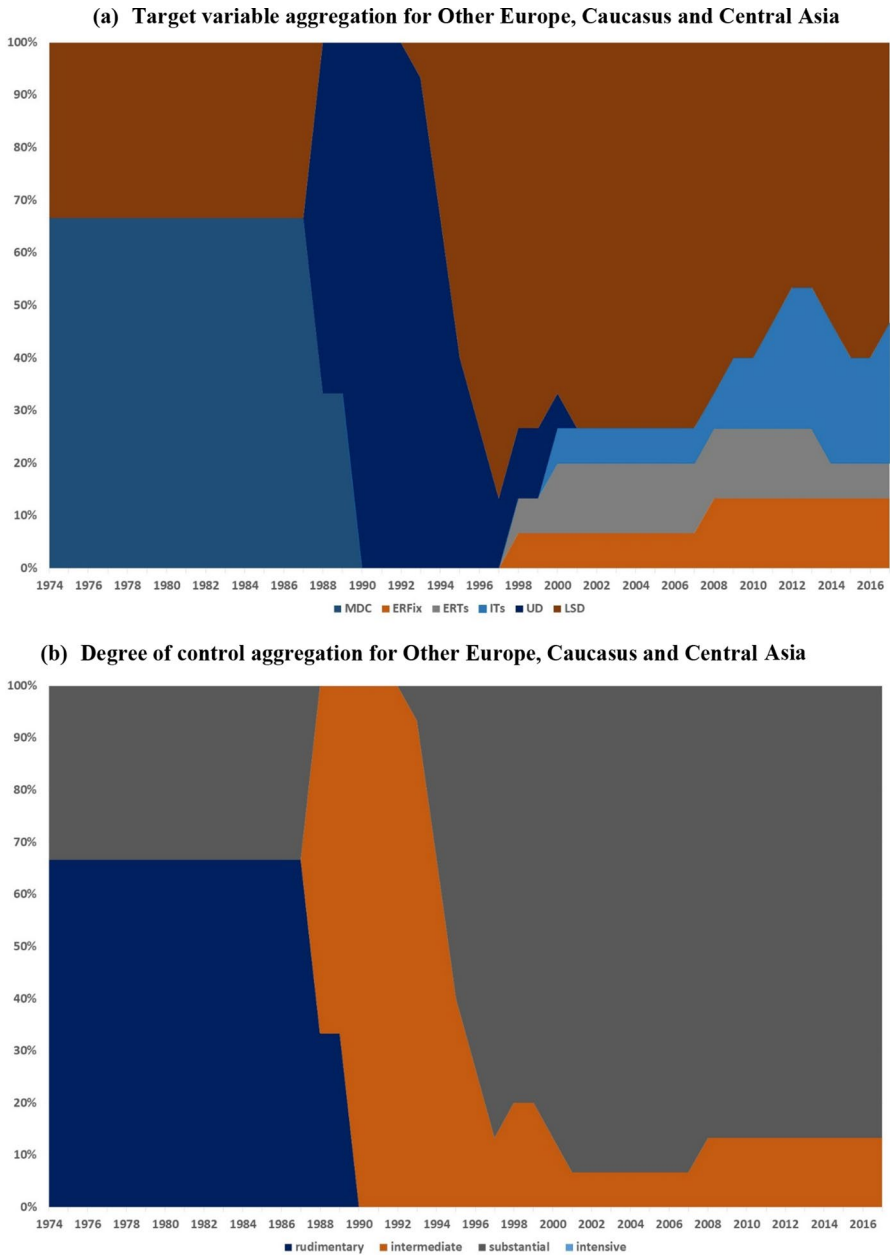

(b) Degree of control aggregation for Latin America
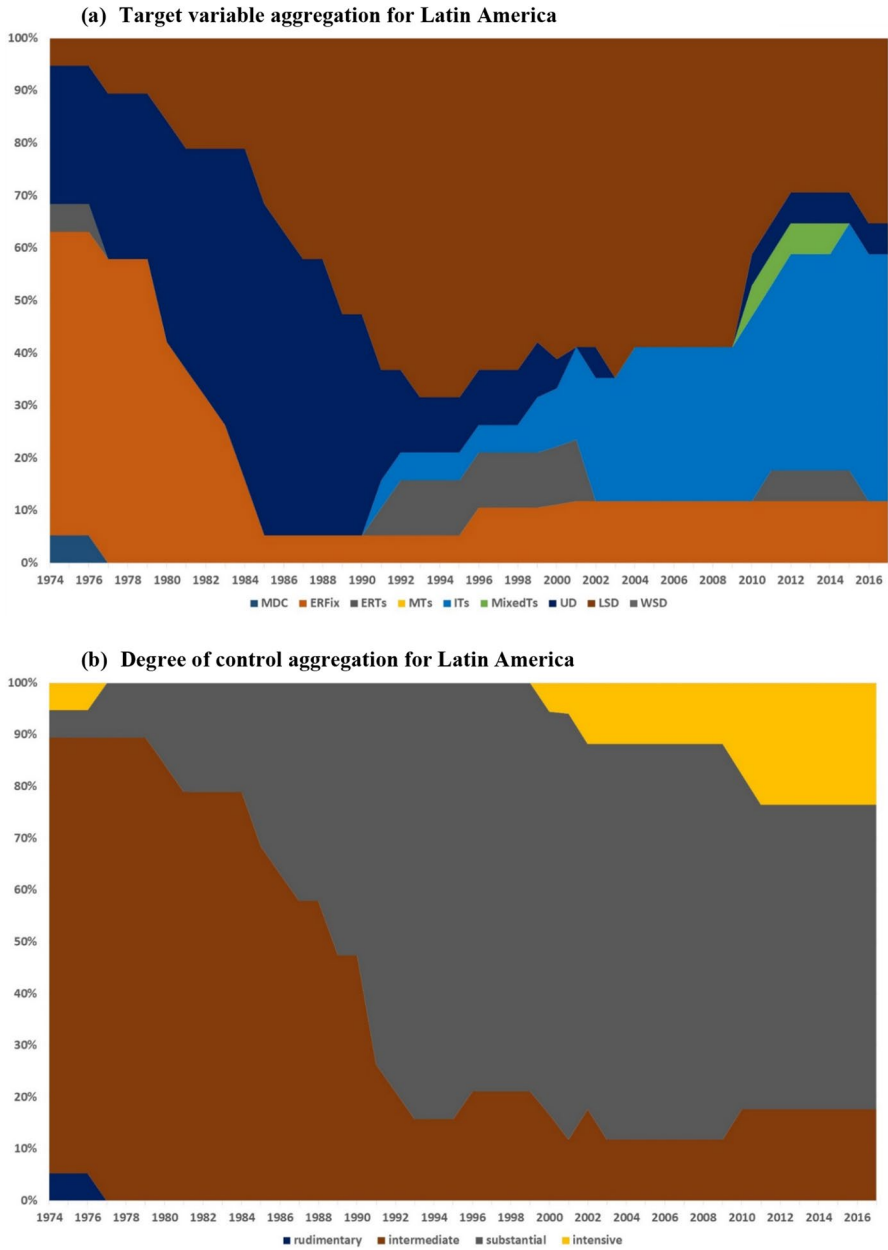
Fig. 7 **a** Target variable aggregation for Latin America. **b** Degree of control aggregation for Latin America

(a) Target variable aggregation for Africa

(b): Degree of control aggregation for Africa

Fig. 8 **a** Target variable aggregation for Africa. **b** Degree of control aggregation for Africa

(a) Target variable aggregation for Asia

(b) Degree of control aggregation for Asia

Fig. 9 **a** Target variable aggregation for Asia. **b** Degree of control aggregation for Asia

(a) Target variable aggregation for Caribbean

(b) Degree of control aggregation for Caribbean

Fig. 10 **a** Target variable aggregation for Caribbean. **b** Degree of control aggregation for Caribbean

(a) Target variable aggregation for Other Europe, Caucasus and Central Asia

(b) Degree of control aggregation for Other Europe, Caucasus and Central Asia

Fig. 11 **a** Target variable aggregation for Other Europe, Caucasus and Central Asia. **b** Degree of control aggregation for Other Europe, Caucasus and Central Asia

Declarations

Conflict of interest The author declares that he has no conflict of interest.

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