

ADB COVID-19 Policy Database: A Guide

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The ADB COVID-19 Policy Database displays the measures taken and monetary amounts announced or estimated by the 68 members of the Asian Development Bank, two institutions, and nine other economies (i.e., a total of 79 entries) until May 2020, to fight the coronavirus disease (COVID-19) pandemic. Measures are classified according to (i) the path a given measure takes to affect the financial system, spending, production, and so forth, i.e., provide liquidity, encourage credit creation by the financial sector, or directly fund households; and (ii) the effects on the financial statements of households, businesses, government, i.e., whether the measures create more debt or more income. This gives a total of nine categories. When the information is available, we report the amounts that governments have announced (intentions) they will allocate to each measure (in many cases, no amount is provided because the measure does not entail spending, e.g., interest rate reductions). These are a mix of actual amounts and estimates, today and in the future (without specifying when). The database will be updated, revised, and expanded as information is released. It is available at <https://covid19policy.adb.org/>.

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I. Introduction¹

This paper explains the key concepts that underlie the taxonomy used to construct the Asian Development Bank's (ADB) *ADB COVID-19 Policy Database* (1 June 2020 version). The database is available at <https://covid19policy.adb.org/>. It was built to keep track of the measures that the 68 members of ADB have implemented to fight the coronavirus disease (COVID-19) pandemic that has

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¹This policy database provides information on the key economic measures that governments are taking to combat the COVID-19 pandemic. The policy database might not fully reflect all the measures implemented by the economies considered. Errors and omissions will be corrected in successive versions. The policy database includes publicly available information and its intent is solely to inform the public, and it does not make any judgment. Please send questions about the database to covid19policy@adb.org. The usual ADB disclaimer applies.

affected the world since early 2020. In this article, we provide details of the methodology we use to classify these measures. The version of the database this paper refers to incorporates the available information until early May 2020. It covers the 68 members of ADB plus the European Central Bank (ECB), the European Union (EU), Argentina, Brazil, Mexico, the Russian Federation, South Africa, Nigeria, the Arab Republic of Egypt, Saudi Arabia, and the Islamic Republic of Iran, that is, a total of 79 entries.

Apart from national sources, the main sources of information used are listed in the references at the end of the paper. The rest of the document is organized as follows. Section II provides the rationale behind the exercise and the framework used. Section III discusses the categorization that we use to classify the economic measures and to construct the database. Section IV shows the worksheet of each economy and discusses the macroeconomic impact of the different measures. Section V provides some final notes and clarifications on the liquidity measures that economies are undertaking.

II. Rationale and Framework

Not all forms of macroeconomic stabilization or stimulus are created equal. Economists have long recognized, for instance, that different types of government spending or tax cuts will have different macroeconomic impacts (or multiplier effects). Rarely, however, do they ground their analysis in operations and financial statement effects that are fundamental in every transaction. One regularly reads in textbooks or the financial press about central banks “pumping money into the economy” through open market purchases or lending through standing facilities, as if these were identical to a direct government transfer to households. These transactions, however, are entirely different in terms of operations and financial statement effects. An individual quite obviously is not indifferent to such choices as (i) an end-of-year salary bonus, (ii) an equal amount conversion of part of her retirement portfolio from bonds to a money market fund, or (iii) a line of credit of equal value. By the same token, neither should the economy be indifferent to macroeconomic policies that often have far greater variety in their operational details and financial statement effects.

For the purpose of understanding different policy actions in response to COVID-19, the approach here is to categorize these actions according to their differences in operational details and/or financial statement effects. Operational details in this context define the path a given measure takes to affect the financial system, spending, production, and so forth. For the COVID-19 policy responses, these fall into the following categories:

- Provide liquidity to financial and non-financial businesses and/or state/local/regional governments

- Encourage credit creation by the financial sector
- Directly fund households, businesses, and/or state/local/regional governments

Financial statement effects of a given measure answer one of the following questions:

- Who, if anyone, bears the financial risk of the measure and what kind?
- Does the measure create more debt or more income (e.g., net worth or equity, other things being equal) for the recipients?

These financial statement effects enable an expansion or elaboration of the operational detail categories shown in Table 1. The left column repeats the three bulleted categories for operational details. The respective potential financial statement outcomes of a given measure are to the right of the corresponding operational detail categories. In order to provide liquidity, for instance, governments or central banks can (i) lend (expanding the borrowers' liabilities in order to obtain central bank liabilities) via existing or expanded standing facilities; (ii) purchase financial assets (exchanging the sellers' financial assets for central bank liabilities); or (iii) relax regulations (such as lowering required minimum liquidity ratios), expand the range of acceptable collateral for secured loans from the central bank, and so on, which do not directly alter private sector financial statements in the sense that there are no accompanying transactions (though they may encourage or enable financial institutions' subsequent actions and thereby lead to changes in their financial statements indirectly, of course). The effects on the financial positions derived from credit creation and direct funding are likewise discussed in detail.

This taxonomy allows us to classify the measures taken by most economies, often not presented using identical criteria. Also, it is wider and richer than a classification into fiscal and monetary policies. Finally, one would like to go as deep as possible, but the information provided by many economies does not allow it.

III. A Categorization of COVID-19 Macroeconomic Measures

In this section, we elaborate on the measures that this database considers. The framework in Table 1 shows five measures in the taxonomy of COVID-19 macroeconomic measures. We note that Measures 01–04 mostly correspond to monetary policy, while Measure 05 corresponds to fiscal policy. Three additional measures are effectively double counting from an accounting perspective but are nonetheless important measures. We label them Measures 06–08. These three

Table 1. **Categorization of Measures according to Operational Details and Financial Position Effects**

Operational Details	Financial Positions
Provide liquidity	Measure 01 Loans from the central bank or government to the private sector and state/regional/local sector Government or central bank purchases of short-term assets from the private sector Regulatory or other changes that do not directly alter private sector financial statements
Encourage credit creation by the financial sector	Measure 02 Increases in liabilities of the private sector and state/regional/local sector to the government or central bank through loans to the financial sector (to enable further lending to the financial and non-financial sectors) or secondary market purchases of securities issued by the financial sector, businesses, or state/regional/local governments Interest rate changes, loan guarantees, forbearances, and regulatory changes that do not directly affect financial positions to encourage private credit creation
Directly fund	Measure 03 Increases in recipients' liabilities through direct loans from the government or central bank Measure 04 Increases in ownership claims of the government or central bank through equity investments in the business and/or financial sectors Measure 05 Increases in income or reductions in costs or obligations through government transfer payments, loan cancellation, tax cuts, forbearances, and so forth

Source: Authors' elaboration.

measures are sources or funds, while Measures 01–05 are uses of funds. Measure 09 is the mirror image of Measure 08 (see explanation below). We add Measure 010 to take into account those actions for which the current information is unclear about the particular measure they should be added to.

In what follows, we elaborate on the specific actions that each of the measures refers to and provide examples:

Measure 01: Support the normal functioning of the money markets and short-term finance

- **01A. Lending to the private sector or state/local/regional governments, and asset purchases to provide liquidity**
 - Additional standing facilities or increased provision for normal lending to money markets

- Short-term loans to nonfinancial businesses to refinance maturing obligations or otherwise finance short-term operations
 - Direct short-term loans (1 year or less to maturity) to state/local/regional governments or purchases of their short-term securities (1 year or less to maturity)
 - Direct purchases of short-term financial assets in secondary markets
 - Repurchase agreements
- **01B. Non-lending actions and regulatory adjustments: collateral requirements, payments system policies, liquidity regulations, reserve requirements, etc.**
 - **01C. Foreign exchange operations or domestic lending in foreign currency**
 - Loans in foreign currency or foreign exchange swaps from a central bank or government to the domestic private sector or into domestic currency markets

Examples of Measure 01:

- People's Republic of China: Expansion of re-lending and re-discounting facilities by CNY1.8 trillion to support manufacturers of medical supplies and daily necessities; micro-, small-, and medium-sized firms; and the agriculture sector at low interest rates
- EU: The European Investment Bank (EIB) dedicated liquidity lines to banks to ensure additional working capital support for small and medium-sized enterprises (SMEs) and mid-caps of EUR10 billion.
- Denmark: The Danmarks Nationalbank announced the launch of an "extraordinary lending facility" which will make full-allotment, 1-week, collateralized loans available to banks at -0.5% interest rate.

Measure 02: Encourage private credit creation

- **02A. Secondary market purchases of securities (greater than 1 year to maturity), and loans to financial sector**
 - Purchases of mortgage-backed securities
 - Purchases of corporate bonds, collateralized loan obligations (CLOs), or bond exchange-traded funds (ETFs)
 - Purchases of new financial sector loans to the non-financial sector in full or less than full
- **02B. Interest rate reductions and other regulatory adjustments: capital requirements, credit and lending standards, oversight, etc.**
 - Interest rate reductions

- Announced reductions in policy rates
- Attempts to indirectly reduce interest rates via purchases of securities (or bond/fixed-income ETFs) in secondary markets
- Reduced capital requirements
 - Temporary or permanent reductions in risk-weighted capital requirements, supplementary leverage ratio requirements, countercyclical capital buffer requirements, etc.
 - Temporary or permanent omitting or reduced weighting of certain financial assets in calculating required capital
 - Temporary or permanent sheltering of losses for lenders from equity impairment
 - Regulatory forbearance
- Oversight
 - Reductions in macroprudential margins of safety (such as loan-to-value ratios, debt-service ratios, etc.)
 - Relaxations in microprudential oversight (such as bank examinations)
- **02C. Loan guarantees**

Examples of Measure 02:

- Australia: The government has allocated up to AUD15 billion to invest in residential mortgage-backed securities and asset-backed securities.
- Cambodia: The National Bank of Cambodia has delayed additional increases in the capital conservation buffer, cut the interest rate in its Liquidity Providing Collateralized Operations to decrease banks' funding costs in domestic currency, and lowered the interest rate on negotiable certificates of deposit to encourage banks to disburse loans.
- Spain: EUR100 billion government loan guarantees for firms and self-employed; EUR2 billion public guarantees for exporters
- Thailand: Soft loans by the Bank of Thailand to financial institutions amounting to THB500 billion to be on-lent at 2% interest to SMEs with outstanding loans.

Measure 03: Long-term direct lending to businesses, households, and state/local/regional governments, and forbearance

- **03A. Long-term direct lending to businesses, households, and state/local/regional governments**
 - Direct loans to the non-financial sector (more than 1 year)
 - Primary market purchases of private debt securities with maturities greater than 1 year (corporate bonds, mortgages or mortgage-backed securities, bonds issued by state/local/regional governments, etc.)

- **03B. Forbearance**

Example of Measure 03:

- Malaysia: MYR1 billion fund allocated by Bank Negara Malaysia (central bank) for SMEs involved in food production; limited to MYR5 million per SME at 3.75% per annum, for a maximum tenure of 8 years

Measure 04: Equity claims on the private sector

- Purchases of equities and/or equity ETFs
- Direct investments in non-financial corporations
- Direct investments in banks and other financial institutions

Example of Measure 04:

- Germany: (i) EUR100 billion under the newly created economic stabilization fund to directly acquire equity of larger affected companies and strengthen their capital position; (ii) EUR2 billion to expand venture capital financing to start-ups, new technology companies, and small businesses during the coronavirus crisis; and (iii) EUR10 billion fund by the state of Bavaria to buy stakes in struggling companies

Measure 05: Government support to income/revenue

- **05A. Health**

- Healthcare-related additions to non-national government income (households, businesses, state/local/regional government)

- **05B. Non-health**

- Non-healthcare-related additions to non-national government income (households, businesses, state/local/regional government)
- General examples:
 - Direct purchases (infrastructure, goods, services, etc.)
 - Direct financial assistance for payroll, non-payroll expenses, reductions in revenues/income
 - Direct transfer payments
 - Direct income support for the unemployed, poor, etc.
 - Direct job creation
 - Tax cuts, credits, exemptions, delayed payments, etc.
 - Reduction in payment commitments (utilities, rent, etc.) with government assistance/subsidies to private payees
 - Moratoria on debt collections and late payment collections with government assistance/subsidies to private payees or creditors
 - Assistance for private production and supply chains (including “wartime powers” command over industry)

Examples of Measure 05:

- India: The finance minister announced on 26 March a stimulus package valued at approximately 0.8% of GDP, which included in-kind and cash transfers to lower-income households, insurance coverage for workers in the health-care sector, and wage support to low-wage workers.
- Republic of Korea: The National Assembly approved the budget of KRW2.1 trillion for disease control, i.e., epidemic prevention and treatment, and support for medical institutions and quarantined people.

The next three measures are also consistent with Table 1 but effectively double count from an accounting perspective:

Measure 06: Redirecting or reallocating previously budgeted spending

Measure 07: Central bank financing government operations

- **07A. Direct lending or government reserve drawdown**
 - Central bank direct loans to government
 - Central bank purchases of government securities in the primary market
 - Other, e.g., deficit without bond issues or central bank direct lending (e.g., Singapore spending from reserves)
- **07B. Secondary market purchases of bonds**
 - Central bank purchases of government treasury bonds in the secondary market

Examples of Measure 07:

- Japan: Purchases of Japan government bonds for “yield curve control”
- United States (US): Federal Reserve purchases US Treasury securities in secondary markets (quantitative easing)
- ECB: Purchases of national government bonds
- Philippines: To further support the Filipino people during the COVID-19 pandemic, the Monetary Board authorized the Bangko Sentral ng Pilipinas (BSP) to purchase government securities from the Bureau of Treasury (BTr) under a repurchase agreement in the amount of PHP300 billion with a maximum repayment period of 6 months.

Measure 08: International assistance (borrower/recipient)

- **08A. Swaps and clearing arrangements (borrower)**
 - Central bank currency swaps and repurchase agreement facility for official foreign accounts
 - Currency swap lines to other central banks (loan collateralized by the borrowing economy’s currency) or official international organizations (e.g., the International Monetary Fund [IMF])

- Non-currency swap repurchase agreement facilities for official foreign accounts

- **08B. International loans and grants (recipient)**

- International aid and grants/donations
 - Grants or loans that are related to the COVID-19 pandemic in support of developing member countries (DMCs).
 - Loans or aid from the World Bank, United Nations (UN), World Health Organization (WHO), etc.
 - IMF special drawing rights (SDRs) granted
 - Donations/aid to specific nations

- **08B1. Asian Development Bank**

- **08B2. Others**

Measure 06 is double counting because it is previously budgeted spending (already allocated/budgeted) that is redirected or reallocated and has been previously accounted for in government budget position projections and therefore, in theory, should not affect subsequent projections to the budget position. Measure 07 is double counting because it is just the funding for Measure 05. Central bank purchases of government securities or direct loans to the government double count government deficits (except to the degree that the purchases or loans become greater than COVID-19-related deficits). Finally, international assistance (Measure 08) is double counting because it is receiving funds, not spending, lending, or investing them.

Measure 09: International assistance (lender/donor)

Measure 09 is the mirror image of Measure 08, from the point of view of the donor economy. It is not double counting from this economy's perspective.

- **09A. Swaps and clearing arrangements (lender)**
- **09B. International loans and grants (lender/donor)**

Measure 010: No breakdown

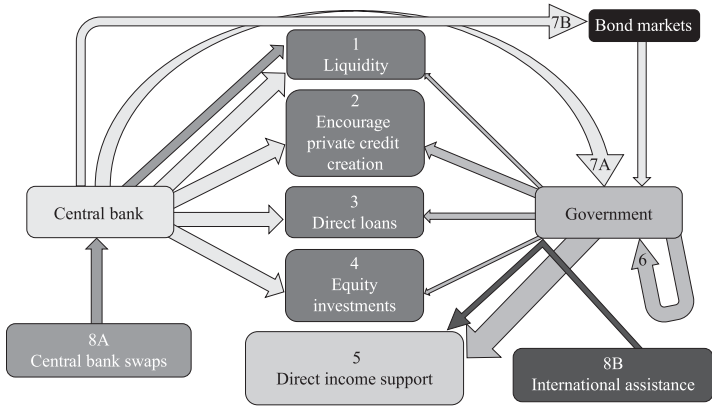
This category captures actions or announced measures that do not yet clearly fit into one or more of the other measures.

- Amounts from measures that cannot be clearly allocated according to their purposes (e.g., amounts that are intended to cover several measures).

Example of Measure 010:

- EU: EUR37 billion unallocated funds of cohesion policy funding 2014–2020 will be eligible for Coronavirus-crisis-related expenditure within the Corona Response Investment Initiative. Member states can use them to support public investment for hospitals, SMEs, labor markets, and stressed regions.

Figure 1. COVID-19 Measures and Their Funding



COVID-19 = coronavirus disease.
Note: The width of the arrows is intended to give an idea of the approximate relative size of the funding. The thicker the larger.
Source: Authors.

As noted earlier, there is a use and funding relationship between Measures 01–05 (and Measure 010, discussed below) and Measures 06–08, respectively (which is the accounting corollary of the just explained “double counting” for these measures). From the point of view of the uses, Measures 01–04 are mostly funded by the central bank (self-financed) and also partly by the government. Measure 05 is funded by the government’s bond sales to the non-government sector (which may be purchased in the secondary market by the central bank in Measure 07B), central bank loans or primary market purchases of government bonds (Measure 07A), drawdown of existing reserves (Measure 07A), and also partly by international assistance (Measure 08B). From the point of view of the funding sources, Measure 06 is also a source of government spending, lending, or investing, but is mutually exclusive from Measures 01–05 in this taxonomy since “where” the spending has been reallocated to is already in Measure 06. As noted, in Measure 07, the central bank directly or indirectly funds the government, which then appears in the latter’s actions across Measures 01–05. Measure 08A directly goes to the central bank, providing funding for activities in Measure 01C. Finally, as noted, Measure 08B is a source of funds for the government and likely ends up in Measure 05. These relationships are summarized in Figure 1.

What is the appropriate combination of measures that capture a nation’s total COVID-19 policy response?

For an individual country, Measures 01–05 and 09, together, capture the financial positions the central bank and government have taken relative to the private sector and state/local governments across their cumulative policy responses—lending to the private sector and state/local governments, contingent liabilities,

equity investments, foreign exchange intervention, lending in domestic markets in foreign currencies, lending domestic currencies to other central banks, and direct transfer of income.

For aggregation across countries, however, Measures 01–05 are the appropriate ones to sum. Measure 09 must be dropped in this case because it double counts both Measure 08 and, more importantly, Measure 01C, in the context of a compilation across countries.

We emphasize again, however, that this is not to suggest that any of these individual measures are qualitatively the same. If they were, there would be no reason to have categories in the first place. Summing across countries for Measures 01–05 and summing Measures 01–05 and 09 together for an individual country gives the total financial positions that have been assumed vis-à-vis the private sector and state/local government sectors; a larger sum tells us a response was likely to have been larger, but does not necessarily tell us that the response was *better*.

Finally, we again note that there are significant differences in what countries report, the quality of reporting across countries, whether reporting is accompanied with numerical estimates, and that significant portions of Measures 01 and 02 do not always lend themselves to such reporting of numerical estimates (such as relaxation of liquidity or capital requirements). So, while it is useful to calculate a nation's total policy response or to compare responses across countries, it is also important to understand what is included and not included in the calculation.

Given the rationale above, each worksheet in the database provides the sum of the amounts in Measures 01–05 (in US dollars), plus the amount in Measure 010 because this refers conceptually to Measures 01–05 and the amount in Measure 09 for the lenders. We refer to this as the Total Package provided. We stress that Measures 01–05 (and 010) include aspects as diverse as central bank or government purchases of assets (Measure 01), the expected impact of lower interest rates in terms of credit creation (Measure 02), and actual government spending (Measure 05). The reason for adding them up is that, as we show in the next section, these measures are consistent with either *stimulus* (i.e., results in multiplier effects greater than 0) or *prevention* of further macroeconomic decline (i.e., similar to automatic stabilizers but discretionary in this case). They are all “response measures.” Further, we of course recognize that any monetary sum cannot fully represent the measures taken, given that authorities are adjusting interest rates, liquidity regulations, and capital regulations. It is also important to recognize that measures (and amounts) announced are changing very often. Finally, some economies do not provide figures for measures that could be represented in monetary terms and have instead issued policy statements without monetary amounts.²

²For these reasons, we ask users of the Policy Database to take this into account and exercise caution when making comparisons.

For those measures that involve actual spending from the government, such as lending and direct income transfers, the amounts reflected are either actual or estimates, depending on the availability of data. The following four are estimates: (i) effects of non-lending actions; (ii) forbearances; (iii) loan guarantees; and (iv) tax deferrals.

We also show the ratio of the total package to 2019 gross domestic product (latest available), the ratio of the economy's package to the total package of the regional grouping the economy belongs to (according to ADB's classification), as well as the ratio of the package to population (in US dollars). These ratios vary significantly across economies as a consequence of the monetary amounts in Measures 01–05. In some cases (typically, but not only, developing economies), the ratios are very small because economies are dedicating small amounts to those measures, and instead they are passing laws that do not involve payments, e.g., lower reserve requirements for banks, or ask banks to restructure loans or not to distribute dividends.³

Recall that for the European countries that use the euro, we separate the measures taken by the governments from those taken by the ECB and those of the EU institutions such as the EIB. Hence, some of these countries will not record any liquidity measures under Measure 01. ECB measures, as well as those recorded in the European institutions, cannot be apportioned by country.

Finally, we stress that the type of information that some economies provide (qualitative and, at times, not clear) requires some judgment in order to assign some actions into particular measures. This means that some actions may be reclassified in future versions as more information becomes available.

IV. A Classification of Macroeconomic Impacts

Table 1 and the measures in section II allow a classification of macroeconomic measures and their macroeconomic impacts. The latter are shown in Table 2.

First, every measure's operational details for the main macroeconomic Measures 01–05, are consistent with either *stimulus* (i.e., results in multiplier effects greater than 0) or *prevention* of further macroeconomic decline (i.e., similar to automatic stabilizers but discretionary in this case). Whether there is stimulus or prevention for Measures 06 and 07 depends on the context. Measures 08 and 09 are prevention.

Second, the measures we consider could have one or several of the following effects: (i) change/support asset prices; (ii) private debt creation; (iii) delay payment obligations; (iv) government/central bank claims on private sector; (v) contingent

³See previous footnote.

Table 2. Sample Worksheet for the *ADB COVID-19 Policy Database* and Macroeconomic Impacts of Each Measure

Measures	Classification of Macro Impacts
Measure 01A Lending to the private sector or state/local/regional governments, and asset purchases to provide liquidity: (i) Loans by the central bank or government (standing facilities, loans to enable refinance)	Main purpose: Prevention Effects: Change/support asset prices Government/central bank claims on private sector
Measure 01A Lending to the private sector or state/local/regional governments, and asset purchases to provide liquidity: (ii) Asset purchases by the central bank or government	Main Purpose: Prevention Effects: Change/support asset prices
Measure 01B Non-lending actions and regulatory adjustments: collateral requirements, payments system policies, liquidity regulations, reserve requirements, etc.	Main Purpose: Prevention Effects: Change/support asset prices Private debt creation
Measure 01C Foreign exchange operations or domestic lending in foreign currency	Main Purpose: Prevention Effects: Change/support asset prices
Measure 02A Secondary market purchases of securities (greater than 1 year to maturity), and loans to financial sector	Main Purpose: Stimulus Effects: Change/support asset prices Private debt creation Government/central bank claims on private sector
Measure 02B Interest rate reductions and other regulatory adjustments: capital requirements, credit and lending standards, oversight, etc.: (i) Interest rate reductions	Main Purpose: Stimulus Effects: Change/support asset prices Private debt creation
Measure 02B Interest rate reductions and other regulatory adjustments: capital requirements, credit and lending standards, oversight, etc.: (ii) Capital requirements, lending oversight	Main Purpose: Stimulus Effects: Private debt creation
Measure 02C Loan guarantees	Main Purpose: Stimulus Effects: Private debt creation Contingent liabilities of government/central bank

Continued.

Table 2. *Continued.*

Measures	Classification of Macro Impacts
Measure 03A Long-term direct lending to businesses, households, and state/local/regional governments	Main Purpose: Stimulus Effects: Private debt creation Government/central bank claims on private sector
Measure 03B Forbearance	Main Purpose: Prevention Effects: Delay payment obligations
Measure 04 Equity claims on the private sector (i) Direct equity or preferred equity investments	Main Purpose: Prevention Effects: Change/support asset prices Government/central bank claims on private sector
Measure 04 Equity claims on the private sector (ii) Secondary market, ETFs, etc.	Main Purpose: Stimulus Effects: Change/support asset prices Government/central bank claims on private sector
Measure 05 Government support to income/revenue	Main Purpose: Stimulus Effects: Direct increase in private sector net financial assets
Measure 06 Redirecting or reallocating previously budgeted spending	Stimulus vs. prevention depends on context Effects: Double counting
Measure 07 Central bank financing government operations	Stimulus vs. prevention depends on context Effects: Change/support asset prices Double counting
Measure 08 International assistance (borrower/recipient)	Main Purpose: Prevention Effects: Change/support asset prices Double counting
Measure 09 International assistance (lender/donor)	Main Purpose: Prevention Effects: None

ADB = Asian Development Bank, COVID-19 = coronavirus disease, ETFs = exchange-traded funds.
Source: Authors.

liabilities of government/central bank; (vi) direct increase in private sector net financial assets; and (vii) double counting. Every measure in Measures 01–05 involves some combination of asset price changes/support and/or financial position effects for the private sector, while Measures 06, 07, and 08 are double counting,

Table 3. Summary of (Typical) Differences among Measures 01–04

	Actions to Support Normal Functioning of Money Markets (i.e., liquidity provision) 01	Encouraging Private Credit Creation 02	Lending to Nonfinancial Sector (unrelated to liquidity needs) 03	Equity Claims on the Private Sector 04
Maturities	<1 year	≥ 1 year	≥ 1 year	N/A
Markets	Any short-term credit market	Secondary debt markets or loan purchases	Primary debt markets, direct loans	Equities (primary and/or secondary, ETFs, etc.)
Borrowers	Financial institutions, nonfinancial businesses, state/regional/local governments, central banks and official accounts (currency swaps and similar arrangements)	Financial institutions (who then lend to the private sector)	Nonfinancial businesses, state/regional/local governments, households	N/A
Lenders	Central bank and government	Central bank and government	Central bank and government	Central bank and government

ETFs = exchange-traded funds, N/A = not applicable.

Source: Authors.

and asset price changes or support is possible for Measures 07 and 08. The effect of Measure 09 depends on the recipient economy. These effects are all *consistent across economies implementing the same measure*.

Finally, Table 3 shows the typical differences in maturities, markets, lenders, and borrowers across Measures 01–04. These characteristics are “typical” or “usual,” but not necessarily universal or present in every circumstance.

V. Additional Clarifications

We end this paper with a collection of additional clarifications on some categories and subcategories.

Liquidity

As in the impact classification above for Measure 01, “liquidity” provision in a financial crisis like the current one, or the global financial crisis (GFC), operationally is *not* stimulus. These are operations for *preventing* a still worse crisis, or, so to speak, putting a floor underneath it. Under normal circumstances, money markets enable payment settlement, short-term funding of financial institutions’ operations, and funding of working capital for non-financial businesses mostly

on private sector balance sheets. A central bank's role is usually to backstop the largest banks and/or government bond dealers through overdrafts, direct loans (often secured), repurchase agreements, and outright asset purchases, sales, or issuance. Banks and dealers in turn, in hierarchical fashion, provide the same to other financial institutions and corporations. While the central bank is certainly active in the money markets in various ways, it is itself normally involved in a small subset of liquidity provision with a subset of financial institutions.

In a financial crisis, the money markets cease normal functioning. In the GFC, the failure of Lehman Brothers in September 2008 was obviously central. Lehman was a market maker in several money markets, and was also holding billions of US dollars for its clients, who could not get to their accounts to meet their commitments. Even before Lehman's failure, though, the significant disruption to commercial paper and Eurodollar markets led the Federal Reserve (Fed) to create several new standing facilities to lend to banks and dealers. Later, the Fed's currency swap operations with other central banks, which were lines of credit, enabled those central banks to support their domestic US dollar markets. The Fed's subsequent commercial paper standing facility directly funded short-term operations of issuers, while its Term Asset-Backed Securities Loan Facility (TALF) operations to purchase asset-backed securities (ABS) in secondary markets encouraged mortgage lending by ensuring a market buyer for the securitized loans.

Central banks' liquidity operations during the GFC provided the funding that is, under normal circumstances, provided by private financial markets. As financial institutions could not carry out their normal roles in these markets, and/or as the quantity of trades in some markets overwhelmed what would be "normal," central banks simply took these markets onto their balance sheets temporarily, partially or in full. These operations are nothing like "flooding markets with liquidity." If anything, the "amount of liquidity" available in these markets was *less* than in normal times.

The "supply shock" brought on by COVID-19 has disrupted money markets again at an even faster rate and a larger scope than the GFC. Almost overnight, every business told to cease operations and every worker told to stay home became a substantially greater financial risk. The same goes for the businesses regularly in the supply chain of the closed businesses, the places those workers shop, the lenders they owe debt service to, the landlords they owe rent to, the utilities they pay monthly, the governments they pay taxes to, and so on. And most of these entities typically finance their short-term operations in money markets or through short-term credit arrangements.

It should be obvious that operations by central banks and governments to provide this short-term finance when normal liquidity provision is severely impaired is preventive, not stimulative. The mix of quickly devised and scaled standing facilities has not been comparable to the speed, depth, and scope of liquidity provision that occurs daily during normal times.

Measures 01A, 02A, and 03A

It is admittedly difficult to apply precise categorizations of different measures to “liquidity” versus “encouraging private credit creation” versus “direct lending.” The Fed’s TALF operations noted above were clearly providing liquidity to the secondary markets for ABS; such ensuring of short-term refinance in money markets to lenders obviously encourages private credit creation. In other words, there is no precise, clear line that can demarcate encouraging credit creation from providing liquidity. As shown in Table 3, our approach here in Measures 01A, 02A, and 03A is to separate them by maturity (1-year or less is 01A; greater than 1 year is 02A or 03A) and by primary or secondary market for 02A (secondary) and 03A (primary). So, the Fed’s earlier TALF facility would be in Measure 02A since the ABS purchased were in the secondary market and had more than 1 year to maturity remaining. Consistent with this, Measure 02A is qualitatively the better fit for TALF purchases of ABS: although they provided liquidity to the ABS secondary market, the purpose of the facility was to encourage credit creation more than to enable businesses and financial institutions to settle payment commitments, roll over maturing short-term liabilities, or finance or refinance working capital.

Measures 01B and 02B

Here again there is no clear dividing line between policy and regulatory measures that enable liquidity versus providing incentive for credit creation. A reduction in, say, the supplementary leverage ratio (02B) can enable liquidity provision by opening up balance sheet space for large banks to lend into money markets, while a reduction in liquidity coverage ratio requirements (01B) can reduce banks’ regulatory costs to providing longer-term credit. The approach here is simply to separate policy measures that tend to require lenders to enter money markets to meet the requirements (01B) from policy measures that tend to directly enable or restrict credit creation either by encouraging borrowers (reduced interest rates, for instance) or offering lenders greater balance sheet space, less oversight, and so forth (02B).

Loan Guarantees

A significant difference from other taxonomies is our treatment of loan guarantees, especially from the government sector. Loan guarantees are contingent liabilities—effectively insurance policies or put options—not government spending per se (unless the government or central bank normally sell the guarantees to lenders but are now making them available at a lower cost or at no cost). Only in the event of a loan default will government spending increase. Consequently, whereas it has been common for others such as the Organisation for Economic Co-operation and

Development (OECD) to categorize loan guarantees as part of government deficit increases devoted to the COVID-19 response, we *initially* place loan guarantees in Measure 02C; thereafter, for those government-guaranteed loans that fail, we will subtract the appropriate value from Measure 02C and add it to Measure 05 (our measure that most nearly resembles the typical understanding of a government deficit).

Our approach is similar for government loan programs that call for the cancellation of loans that meet certain criteria (such as loans to businesses that qualify for cancellation if the borrower uses the funds to pay employees and so forth)—a government transfer of income to the private sector occurs only when the loan is cancelled, and so it is at that point (and not before) that the measure's relevant monetary value is debited from its current measure and credited to Measure 05.

Consequently, we fully expect that our Measure 05 is not equal to the projected fiscal packages of countries—in our view, there is an important difference between measures that have raised the private sector's net income directly and those that do not, especially if the measure instead raises the private sector's liabilities (even temporarily).

Forbearances

Forbearances are frequently reported incompletely for precise categorization from an accounting perspective. If the government offers a delay in payment required of its borrowers or taxpayers, it is clear the measure belongs in our Measure 05. But if legislation requires banks to allow their borrowers to delay payments, for instance, more information is required for precise categorization. If the government is subsidizing the banks for lost or delayed interest, that spending also belongs in our Measure 05. On the other hand, if the government is not subsidizing banks for lost or delayed interest, then the forbearance adds a financial burden for lenders while reducing financial burdens for borrowers. This is similar for delays in rent, utility payments, and so forth. Unfortunately, incomplete reporting is the norm for forbearances; where it is clear that the government or central bank is bearing a financial burden, we record this in Measure 05. For any other portion of a forbearance, or if there is not enough information to make such a determination in the first place, we record this in Measure 03C.

Measure 07B and “Liquidity”

When a central bank purchases government bonds in the secondary market (Measure 07B) in normal times, some refer to this as an increase in “liquidity.” Similarly, they may want to refer to these operations in the same way in the current pandemic scenario. The central bank's purchase has two sides to it—the purchase of the government security is added to the central bank's assets,

while the purchase is paid for by adding reserves (that is, central bank settlement balances) to the purchaser's bank's account at the central bank (and the purchaser's bank subsequently credits the purchaser's account). The added reserves are the increase in central bank's liabilities corresponding to the increase in its assets. Our approach, implicit in Measures 01–04, is to categorize loans and asset purchases according to what claims on the private sector have been acquired by the government or central bank—that is, according to what assets the government or central bank has acquired. The one measure that is based on what the *private sector* acquires from the government or central bank is Measure 05, because it is a direct increase in the private sector's income and (by definition) a decrease in the income of the government or central bank. Measure 07B does not increase the private sector's income but is rather an exchange of a government liability for a central bank liability. Therefore, our approach here to use Measure 07B for central banks' secondary market purchases of government bonds is consistent with our categorization of central bank actions in Measures 01–04 that likewise account for the assets the central bank acquires rather than the liabilities it has created to make the acquisitions.

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