El papel de la Programación Financiera dentro de una Administración Activa de Caja

II Seminario Latinoamericano sobre Gestión de Tesorerías Públicas 2011

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To Recall the Objectives of Cash Management....

<table>
<thead>
<tr>
<th>Ensuring cash is available to meet commitments</th>
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<td>Overriding objective – other objectives must be subject to it</td>
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<td>But other objectives are important</td>
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- Economising on cash within government
  - Saving costs
  - Reducing risk
- Managing efficiently the government’s aggregate short-term cash flow
  - Both cash deficits and cash surpluses
- In such a way as also to benefit
  - Debt management
  - Monetary policy
  - Financial markets (market liquidity and infrastructure)
Approaches to Cash Management

Traditional (Passive) Approach

- Essentially passive
- Monitoring cash balances, maintaining cash buffer to handle both volatility and unanticipated outflows
- If necessary restraining / slowing expenditures or delaying bill payments - cash “rationing” not cash management

Modern (Active) Approach

- Managing cash more actively
- Trying to smooth weekly or daily cash flow by more active borrowing and lending in money market
- Allows lower average cash buffer – with benefits to other policies
- Gives tools to protect expenditure plans from cash flow volatility

OECD and many middle-income countries (especially in Europe) moving toward more active approach

Latin America ?
The Policy Challenges are Inter-related...

1. Budget Execution
   - Expenditure etc outflows
   - Tax etc inflows

2. Targeting Balances

3. Monetary Policy

4. Cash Flow Management in Money Market
   - Debt redemptions, less capital receipts
   - Debt issuance

5. Market Development


Cash Flow Forecasting

Cash Balance (TSA)
Cash Flow Forecasting

- Efficient cash management requires ability to forecast daily cash flows across the TSA
  - To facilitate orderly achievement of budget targets; and to ensure that budgeted expenditure is smoothly financed
  - To devise the strategies for smoothing the cash flow profile
- Characteristic of all modern government cash management systems
- A smoother cash flow means:
  - Lower average cash balances
  - Reduced borrowing costs
    - Interest on cash balances always less than interest on marginal borrowing
  - Less pressure on central banks’ monetary policy operations
Active Cash Management and Monetary Policy

• Domestic banking sector liquidity depends on:
  – Central banks’ monetary policy operations – lending to or borrowing from credit institutions, reserve requirements, deposit facilities, etc
  – “Autonomous” influences – public’s demand for banknotes (predictable), net foreign currency inflows (which depend on intervention policy) and changes in government deposits at central bank (i.e. changes in TSA balance)

• Less fluctuation in government cash flows across TSA → less fluctuation in money market / bank liquidity (other things equal)
  – Less weight has to be placed on monetary policy operations to control liquidity
  – Active cash management works to benefit of central banks

• Holding the TSA in a government-owned bank avoids the monetary policy problem, but creates others:
  – weakens the MoF’s policy leverage over the management of its own cash flows and/or puts strains on coordination structures, including with central bank
  – potentially exposes the government to moral hazard
  – potentially drives a wedge between the short-term and longer-term market
Cash Flow Forecasting: the Aim

- Objective is to anticipate cash needs of government
- Forecasts needed of total net cash flow (hence also cash balance)
  - Receipts and payments (above the line); and
  - Financing transactions (below the line) - debt redemptions, new borrowing, also e.g. assets sales
- Focus is domestic currency
  - May need to identify FX, donor flows separately (depends on TSA structure)
- Forecast information is needed for some period ahead
  - Timing of future peaks and troughs must be identified to make decisions about the maturity of required borrowing or lending
- Ideally
  - Daily (if necessary weekly) some 3 months ahead
  - Rolled forward regularly (weekly)
Key Features of Forecasting Framework

• Framework must be comprehensive
• What matters is cash flow
  – Separation of permission to spend from actual spending
  – Tax revenue in TSA not in banking system
• Monitor actual changes in close to real time
  – Analyse divergences
• Forecasting relies heavily on those in spending units and tax departments closest to cash flows (see later)
• Concentrate on major inflows and outflows
• Emphasis on history and experience
  – Not econometrics
Tool and Techniques - 1

• At start of year, forecasts consistent with annual budget
  – But need unbiased estimates – what is going to happen, not what “should” happen; do not constrain to budget as year progresses
  – May help to separate forecasting from budget execution processes

• Revenue forecasts from the tax departments
  – Monthly totals of tax receipts, by tax for xx months ahead
  – Daily [weekly] tax receipts for next month, 1-3 months if possible
  – Tax usually more variable and more unpredictable

• Expenditure forecasts from spending agencies or units
  – Expected expenditure (cash not commitments) by day/week for xx months ahead
  – Focus on largest spending units [80/20 rule]
  – Require pre-notification of major expenditures
  – Many countries have an end-year surge in expenditure – avoid rules preventing end-year carryover of unused appropriations?
• Identify seasonality
  – Monthly salary payments; regular social welfare or pension payments
  – Some other expenditures – eg agricultural support – may be seasonal
  – Tax payment days (gear tax payment days to days of expenditure outflow)
• Identify major individual flows – some are precise and predictable
  – Debt issuance and redemption; interest on government debt (avoid redemptions on days of heavy expenditure)
  – Transfers to lower levels of government
  – Receipts from major asset sales
  – Less predictable but important to identify:
    • Payments on major public projects
    • Tax payments by the largest companies
• Particular problems with donor grants and disbursements
  – Highly uncertain, difficult to forecast, depends on project progress
  – May be possible to assume that project spending and project-related funding net to zero – but does not cope with lumpy flows
  – Inflows may also go to separate accounts not TSA
Making Forecasting Work in Practice

• Important that Spending Units and Tax Departments cooperate
  – Insist on profiles and forecasts
  – Good administrative practice should be enough; but if necessary legislate

• Carrots and Sticks
  – Reward good forecasting: greater delegated authority, easier virement, roll-over unused appropriations (financial penalties for poor forecasting)
  – Ensure there is no incentive to hoard cash

• Daily monitoring
  – Monitor actual transactions across TSA
  – Outturn for the day must be known no later than following morning
  – Analyse experience: e.g. do forecast errors imply timing changes within the month or changes in the level of activity?

• Personal contacts
  – Avoid requests / information going up hierarchy, across and down
  – Cash forecasters in Treasury must have direct contact with opposite numbers in major spending units and tax departments
Managing Forecast Data

• Cash flow forecasting usually requires development of a single central database independent of the GIFMIS. Reflects different purposes:
  – Cash flow data are needed to support immediate operational decisions
  – They do not have to be of “accounting” quality or precision
• Cash managers need a database that is:
  – Flexible and under their control
  – Allows preparation of scenarios, what-ifs etc
  – Able to hold outturn information for analytical purposes
• Many countries use Excel, at least initially
Who does What?

- Various national models – no “right” approach – but emerging best practice
- Spending units and tax departments – provide above the line data
- In MoF/Treasury/Debt Management Office distinguish between:
  - Who aggregates ‘above the line’ forecasts; and takes responsibility for the projection of the total
  - Who adds ‘below the line’ transactions – will often be debt managers
  - Who is responsible for taking decisions about investment of surpluses or issuance of TBills to manage cash flow
- Central bank – provides banking services and information flows
  - May provide details of actual flows or disbursements
- Good practice guidance
  - Identify who is responsible for what – others should not second guess
  - Single focus for final compilation and decision making
  - Regular [weekly] meetings of those responsible in MoF to review forecast updates, decide on investment / issuance policies, establish risk parameters
Putting the forecast to work...

- Smoothing the net cash – target a range of fluctuations of the TSA balance
- Central bank no longer has sole responsibility for managing day to day fluctuations
  - Associated with – and supports – monetary policy independence of central bank
  - Major benefits – clarity in financial markets, eases monetary policy operations
  - But residual cash flow forecasts should be passed to central bank
- Distinguish between:
  - “Rough tuning” – issuing Treasury bills (or other short-term instruments) to a pattern designed to offset the impact on banking sector of net cash flows in and out of government, ie to smooth somewhat the changes in the TSA
  - “Fine tuning” – more active policies, wide on a wider range of instruments, to smooth the treasury’s balance more fully – technically more demanding
- Identify responsibility within MoF/Treasury/DMO
  - Increasingly given to DMO or similar, in consultation with others, because of the benefits of integration between debt and cash management
  - But different international models
Responsibilities: a Summary
# Cash Management Instruments

## Borrowing
- Treasury bill usually main instrument in moving towards more active cash management
  - TBill has different roles as instrument of
    - debt management
    - cash management
    - monetary policy
  - Emphasis on shorter-term (e.g. 1 month) bills for cash management
- Some EU countries issue commercial paper (CP)
- Repo usually used for fine tuning – but requires liquid market

## Lending
- (Reverse) repo preferred instrument if market sufficiently liquid
  - Secured and flexible
- Many countries use bank deposits
  - Lend at market rates – term or overnight
  - Competitive process (by tender if no transparent prices)
  - But must be collateralised – reduce credit risk
- Consider (remunerated) deposits with central bank if important to underpin monetary policy stance
Rough Tuning: Example

Rough Tuning with weekly issue of Treasury Bills only

Converts this profile to this profile

[Fine tuning makes it flat]
Management of Cash Balances

• Separately identify
  – Management of day to day cash, including the cash buffer
  – Management of a structural surplus (net of any debt repayment)

• Structural surplus: distinguish between
  – Cash that might be needed one day [eg in 6 months] – usually managed by cash managers alongside the cash buffer
  – Longer-term funds
    • Sovereign wealth funds, funds for future generations, fiscal stabilisation funds, pension liability funds etc
    • Managed separately – in context of government’s whole balance sheet

• Governments need access to liquidity – implies some cash balances
  – How do you decide the minimum?
What Determines the Cash Buffer?

1. The volatility of daily cash flows
2. The ability to forecast those cash flows
   - The standard deviation of errors in the forecast will [should] be much less than standard deviation of outturn
   - Key area for policy focus – Treasurers have less leverage over other determinants
3. The scope to manage unanticipated fluctuations and the timescale over which they can be managed
   - How soon can additional TBills be issued?
4. Safety nets
   - Emergency credit facilities or cash reserves
   - End of day borrowing from commercial banks
   - [Short-term borrowing from central bank]
Cash Buffers in Practice

- Several northern European countries operate with cash balances in the central bank << 0.1% annual central government expenditure
  - But they have liquid money markets, sophisticated active cash management. Some plan to be long of cash and on-lend only when position is secure
  - Drying up of liquidity led some to be more cautious

- Some other approaches – the importance of signalling prudence:
  - Target balance calculated as a safety reserve in event of adverse market conditions – depends on expected time to return to normality
  - Maintaining balances as least as great as the debt redemptions due in the following month, implicitly allowing for a failed auction
  - To guarantee budget execution or debt service for [X] months
  - In Italy there is a legal requirement for balances to exceed €10 billion – the peak of cumulative net outflows reached in any period

- Recommended buffer in absence of developed cash management:
  - Cumulative forecast errors over policy reaction period coupled with a precautionary balance for market disruption or auction failure
  - But the buffer has an opportunity cost – there is a trade-off with caution
Buffer = Cumulative forecast error over reaction period, plus precautionary balance

Deterioration
4.9 bn over 4 days

Deterioration
5.8 bn over 6 days

Cash Flow Buffer: Illustration
The Financial Crisis: Some Lessons?

• The Cash Management Reform Programme
  – More focus on liquidity risks => higher cash buffer
  – Importance of improved cash flow forecasting

• Strong case for close coordination (or integration) of cash and debt management
  – Money market is an additional short-notice source of funds – huge increase in TBill issuance in many countries
  – Both debt managers and cash managers need a liquid money market

• Develop mechanisms to cooperate with central bank
  – Essential when banking sector under stress
  – Mutual interest in money market development – develop repo market
  – Cooperation does not jeopardise policy independence

• Develop a “financing continuity plan”
  – Greater caution in respect of cash, some front-end loading of auctions; procedures for short-notice issuance/[tapping] of TBills, TBonds
  – Develop cash management safety nets – alongside the cash buffer
Conclusion

• Growing international appreciation of the importance of active cash management
  – Reduces debt interest costs
  – Contributes to other policies

• Underpinned by cash flow forecasts
  – Anticipate cash flow needs of government
  – Dependent on centralising information from many sources

• Use of TBills, collateralised deposits and repo and reverse repo to tune cash flows
  – Identify key responsibilities
  – Focus on money market development

• Identify target cash balances – but include a buffer

Thank You!
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