COMMENTS ON SESSION 2
GOVERNMENT BUDGETS AND POTENTIAL GROWTH

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I would like to thank Daniele and his team for the invitation to the workshop and the opportunity to comment on two interesting papers in this session. Although New Zealand's public debt levels are relatively low (albeit with relatively high levels of private sector debt), projections suggest that under existing policy, debt-to-GDP ratios are likely to rise (Buckle and Cruickshank, 2012). Hence the possible effects of higher public debt on economic growth are of interest.

1 Comments on "Debt and Growth: New Evidence for the Euro area" by Anja Baum, Cristina Checherita-Westphal and Philipp Rother

The focus of this paper is on the short-term, non-linear impact of public debt on GDP growth in the Euro area. Non-linear effects are captured via the use of a threshold regression model, where the threshold distinguishes the two regimes where the behaviour predicted by the model differs.

In terms of methodology, the paper contributes to the literature by extending the non-dynamic threshold panel methodology of Hansen (1999) to a dynamic setting (Caner and Hansen, 2004). The dynamic effects are captured by adding lagged GDP growth rates to the regression. The endogenous variable is the real GDP growth rate, and control variables include: lagged real GDP growth; openness; the investment-to-GDP ratio; and a dummy variable for EMU entry. Estimation uses annual data for 12 Euro area countries over the period 1980 to 2010.

An important part of the estimation involves finding the threshold debt ratio that divides the sample into two different regimes. The dynamic model is estimated with 2Stage Least Squares (2SLS) for each possible value of the threshold variable, and the corresponding sum of squared residuals (SSR) are calculated. The selected threshold value is the one that gives the smallest SSR. Based on this estimate, the slope parameters are estimated using Generalized Method of Moments (GMM). The results are reported both for the non-dynamic and dynamic panels. The possibility of more than one threshold value (*i.e.*, more than two regimes) is found to be insignificant.

In terms of the results, the short-run impact of additional debt is positive and highly significant at debt-to-GDP ratios below 67 per cent for the benchmark case (1980 to 2007). The impact reduces to zero if debt-to-GDP is above the threshold. A longer sample period, up to 2010, changes the dynamic panel results. The short-run impact of additional debt estimated by the dynamic panel is positive and is highly significant at debt-to-GDP ratio levels below 95.6 per cent. Additional debt has a negative impact on economic activity for high debt-to-GDP ratios above 95 per cent and is statistically significant.

The paper argues that the transmission channel behind the results works through long term interest rates and higher sovereign risk premia. Market sensitivity to debt-related news has recently increased in the Euro area. Therefore, an increase in debt levels today may raise concerns about debt sustainability and signal a tighter fiscal policy in the near future. This is likely to dampen the positive stimulus effects of policy that is the dominating factor behind the results. Therefore, it is

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also important to understand the sources of debt increase. It could make a difference if the additional debt is simply for financing consumption spending versus productive investment.

2 Comments on "Public Debt and Growth" by Manmohan Kumar and Jaejoon Woo

The focus of this paper is on the relationship between high public debt and long-run economic growth. The paper provides further analysis of the findings of Reinhart and Rogoff (2009, 2010) and addresses several of the perceived shortcomings in that work. The contributions along these lines include: the treatment of the endogeneity by using the approach of Arellano and Bover (1995); using the initial level of debt to avoid the reverse causality problem; using an extensive set of regressors to control for the effects of other determinants of growth; and the use of extensive statistical techniques to validate the results.

The estimation starts with a baseline panel of 38 advanced and emerging economies, covering the period 1970 to 2008 and employing a variety of estimation techniques. The rationale for using different methods is based on the fact that different methods involve different tradeoffs (e.g., measurement error versus omitted variable bias). Alternative time period and country coverage are also considered.

The paper also attempts to determine the channels through which debt affects economic growth by considering its effects in a growth accounting framework (*i.e.*, total factor productivity and growth of output and capital stock per worker). The main result is that a 10 per cent increase in the initial debt-to-GDP ratio reduces the subsequent growth rate by 0.2 per cent per year.

The transmission channel is through a slowdown in labour productivity growth due to reduced investment and slower growth of the capital stock. The paper finds evidence of non-linearity, with higher levels of initial debt-to-GDP (>90%) having a proportionately larger negative effect on subsequent growth. Results appear to be robust to different estimation methods with the exception of the fixed effect estimator, where the debt-to-GDP ratio is insignificant.

The fiscal deficit variable is also found to be highly significant in affecting growth rates. Although removing it and other variables in alternative parsimonious specifications still yields an overall negative relationship. This suggests that both deficits and debt matter for growth. It would be interesting to test the results using net debt instead of gross debt. Although data may not be available for the majority of the countries included in the sample, it might be useful to test the validity of the results for a number of countries where net debt data is available. The selection of the thresholds (*i.e.*, low, medium, high) seems somewhat *ad hoc* – what is the rationale for choosing them? Finally, it would also be interesting to assess the sensitivity of the results given the post 2008 experience. Possible extensions to the paper could include the link to external net liabilities and the maturity structure of public debt (elements of these were included in the tabled version of the paper).

3 General comments

Both of the papers focus on relatively narrow aspects of public sector balance sheets, namely public debt. An important lesson from New Zealand's on-going publication of balance sheet information, including the recently published *Investment Statement,* is the insight that can be gained from decomposition. Table 1 lists some of the New Zealand Government's key balance sheet indicators, together with the net positions of portfolio groupings based upon financial, commercial and social objectives.

Table 1

New Zealand Government Balance Sheet Indicators and Portfolios
(billions of NZD dollars, year ended June 2011)

Indicator *(debt reported as +)*		**Portfolio** *(assets – liabilities)*	
Gross debt	72.4	Financial	(47.2)
Net debt	40.1	Commercial	30.9
Net debt including NZSF	24.0	Social	97.2
Net worth	80.9	**Sum = net worth**	**80.9**

Note: Gross debt is gross sovereign-issued debt excluding central bank settlement cash and bills. Net debt is for the core Crown. The NZSF is the New Zealand Superannuation Fund, an entity designed to partially pre-fund future public pensions. Nominal GDP for the year ended June 2011 was around $NZD 200 billion.
Source: Treasury, 2011 Pre-election Economic and Fiscal Update, 25 October.

Unsurprisingly, Table 1 indicates that the social portfolio, comprising assets and liabilities held to provide public services or protect assets for future generations, dominates the balance sheet. Although the (negative) net worth of the financial portfolio is broadly similar to net debt, the former includes a wider set of financial assets and liabilities. In terms of institutional form, these financial assets and liabilities are organized to achieve particular objectives. For example, there is some partial prefunding of public pensions (via the New Zealand Superannuation Fund) and of state-employee pensions (via the Government Superannuation Fund), some matching of accident liabilities (via the Accident Compensation Corporation), and some buffering against natural disasters (via the Earthquake Commission) and macroeconomic shocks (via net debt). Economic developments over recent years, together with significant earthquakes in the Canterbury region have depleted these last two buffers.

Buckle and Cruickshank (2012) assess the wide range of factors influencing the choice of debt targets in New Zealand, many of which interact with the wider elements and objectives of the balance sheet summarized above. A future path of rising gross public debt will, as the two papers commented on suggest, have implications for New Zealand's future economic growth. Nonetheless, the size of those effects and the nature of the transmission channels will likely be influenced by wider developments in the size and composition of the overall public sector balance sheet.

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