Fiscal Stimulus Impacts on Firms*

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Abstract

Using accounting micro data from Worldscope database for 8,512 manufacturing firms in 42 Advanced and Emerging countries, this paper examines how fiscal stimulus (i.e. changes in government spending) affected firm performance (profits, sales, capital expenditure and employment) during the recovery period from the global financial crisis (GFC). The analysis also focuses on understanding whether firms' initial conditions have implications for their response to fiscal policy and, therefore, to fiscal consolidations. Using cross-sectional [and differences-and-differences] analyses, our findings indicate that manufacturing firms profitability improve significantly after a fiscal stimulus, notably in Emerging Markets Economies.

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I. INTRODUCTION

The fiscal stimulus provided during the global financial crisis (GFC) was one of the most coordinated economic policy actions among countries in recent years. However, more than five years since the beginning of the GFC, addressing below trend economic growth remains a priority for many economies. While several studies have analyzed the impact of the stimulus and their multipliers over the economy, the literature is scarce on the effects of the fiscal stimulus at firm and sector levels around the world.

This paper investigates the effects of fiscal stimulus at firm and sector levels. Our main innovation is to estimate the impacts of government spending on firm-level sales and profitability in 8,512 firms from 48 advanced and emerging economies (AEs and EMEs, respectively) for the period from 2003 to 2010. For that, we use the Worldscope (Thomson Financial) database that compiles publicly traded firms' balance sheet information (see Medina, 2013). Such analysis is instrumental in understanding which sectors are more sensitive to fiscal policy and, therefore, to fiscal consolidations plans.

The size of fiscal multipliers has been a key factor when discussing the appropriate fiscal response to the financial crisis. This debate was initially based on evidence from the pre-crisis literature, which typically found that the short-term output effects of discretionary fiscal policy are small and largely dependent on the type of fiscal instrument. The important policy implications of fiscal multipliers spurred a new literature, which focused on the possible asymmetric effects of fiscal policy in periods of protracted recessions or when monetary policy is constrained by the zero lower bound (ZLB). Under such circumstances, this literature has found that short-term multiplier estimates are indeed significantly larger than those found in the previous literature (Mineshima et al., 2014).

Nevertheless, very few papers investigate the multiplier effect of government spending at the firm level. The existent literature (e.g., Perotti, 2008; Aghion et al., 2009; Nekarda and Ramey, 2011) uses different techniques to the one suggested here. Our paper is further related to other literature looking at how crisis and different industrial sectors affect firm profitability and added value (Claessens et al. 2012) as well as to the literature looking at the debt and growth at firm level (Woo, 2014).

Firm-level micro data may be useful to isolate and quantify different transmission channels related to different firm characteristics. For example, that could be more finance-dependent firms versus more trade-dependent firms. Such information is lost in the aggregate data. The first firm-level analysis to study how crises (in emerging markets) spread to other markets was conducted by Forbes (2004). For the 2008–2009 crisis, micro firm-level evidence is relatively scarce, partly because firm-level data for many countries are only released with long lags.

In this paper, therefore, we use actual firm-level balance sheets and income variables, and investigate these effects for a large number of countries affected by the crisis, complementing and expanding previous research. However, while firm-level data offers richer information than aggregate data, there are caveats to bear in mind. First, since the data cover publicly listed firms only, we cannot claim that results are representative of the whole economy. Second, because firm coverage varies by country, one has to check that the results are not driven by variations in the country coverage (which we do).

We identify fiscal stimulus episodes as changes in the countries' structural fiscal balances. Given potential endogeneity issues, this measure is also instrumented by the narrative approach using the dataset constructed by the International Labor Organization which covers several emerging economies and by Devries et al. (2011) and Guajardo et al. (2014) for the OECD countries. Such datasets identify fiscal shocks that are motivated by the desire to reduce the public deficit, hence exogenous to cyclical considerations. The sectoral level empirical model is then estimated via cross-sectional [and differences-and-differences] analyses.

The recent debate over the government stimulus package has highlighted the lack of consensus concerning the effects of government spending. While most approaches agree that increases in government spending lead to rises in output and hours, they differ in their predictions concerning other key variables. For example, a key difference between the neoclassical approach and the New Keynesian approach to the effects of government spending is the behavior of real wages. The neoclassical approach predicts that an increase in government spending raises labor supply through a negative wealth effect. Under the neoclassical assumption of perfect competition and diminishing returns to labor, the rise in hours should be accompanied by a short-run fall in real wages and productivity. In contrast, the standard New Keynesian approach assumes imperfect competition and either sticky prices or price wars during booms. Such standard approach predicts that a rise in government spending lowers the markup of price over marginal cost (Fernandez-Villaverde et al., 2015). Thus, an increase in government spending can lead to a rise in both real wages and hours, despite a decline in productivity. In alternate versions of this approach, increasing returns can allow an increase in government spending to raise real wage, hours, and productivity.

Overall, our findings indicate that firms profitability in the manufacturing sector improve significantly after the fiscal stimulus. Results additionally suggest that fiscal impulse contributes to an increase in manufacturing firms' sales, particularly in EMEs. Furthermore, findings also show that pre-crisis firm's characteristics matter for firm performance during the recovery, such as the pre-crisis firm's size, debt, and ratio of fixed assets to total assets. To the best of our knowledge, this is the first paper to provide such evidence.

The rest of this paper is organized as follows. Section II provides a literature review. Section III describes the econometric model and methodology of the paper. Section IV discusses the results, where section V concludes the paper.

II. LITERATURE REVIEW

In this paper, we follow closely Claessens, Tong, and Wei (2012). Those authors also use accounting data for 7,722 non-financial firms in 42 countries to examine how the 2007–2009 crisis affected firm performance and how various linkages propagated shocks across borders. They isolate and compare effects from changes in business cycle, international trade, and external financing conditions, on firms' profits, sales and investment using both sectoral benchmarks and firm-specific sensitivities estimated prior to the crisis.

One of their analyses (Table 7) examines whether countries' fiscal and monetary stimulus mitigated the impact of the crisis in general, and affected the severity of the transmission through the business cycle and financing channels in particular. The fiscal stimulus (measured by the size of discretionary stimulus as a percent of GDP announced between September 2008 and March 2009) is interacted with business cycle sensitivities. In turn, their first measure of monetary stimulus is proxied by the change in nominal short-term interest rates from September 2008 to March 2009. Using this approach they find a significant effect of the stimulus in the case of profits, but an insignificant effect for sales and investment. Overall, the fiscal stimulus has a positive impact through the business cycle channel and the monetary stimulus through the financial channel.

Another paper close to our research question is Ramey and Nekarda (2010). Those authors use the Manufacturing Industry Database (MID), containing annual data for 458 4-digit SIC code manufacturing industries from 1958 to 1996 to investigate industry-level effects of government purchases and the transmission mechanism for government spending on the aggregate economy. They create a panel data set that matches output and labor variables to shifts in industry-specific government demand. Their findings indicate that increases in government demand raise output and hours, but lower real product wages and productivity. Markups do not change as a result of government demand increases. Their results are consistent with the neoclassical model instead of the New Keynesian model of the effects of government spending.

Another paper analyzing fiscal policy at the firm level is Arnold and others (2011) and Schwellnus and Arnold (2008). These authors use annual data at both the firm level and the industry level to investigate the empirical link between corporate and income taxes and total factor productivity (TFP) and investment. Their empirical evidence at industry level is based on a panel data set of 21 industries in manufacturing and business services across 13 OECD countries over the period 1981–2001, extracted from the OECD STAN database. The analysis at the firm level is based on a stratified sample of approximately 287,000 firms from

12 European OECD countries over the years 1996 to 2004, extracted from the Amadeus (Bureau van Dijk) database. Using those data, they conclude that the best tax cut for increasing demand and promoting long-run growth appears to be a reduction in personal income taxes and social security contributions on low-income households. This would be particularly effective in countries where the cut can increase monthly incomes immediately, rather than waiting for a tax assessment at the end of the year.

Finally, Aghion, Hemous, and Kharroubib (2014) analyzes the effect of stabilizing fiscal policy on (industrial) growth, and how this effect depends upon the financial constraints faced by the industry. They use cross-country/cross-industry panel data on a sample of 15 OECD countries over the period 1980–2005, to test whether industry growth is significantly affected by the interaction between fiscal policy countercyclicality (computed for each country) and external financial dependence or asset tangibility (measured for the corresponding industry in the US). They find that a more countercyclical fiscal policy enhances value added and productivity growth more in more financially constrained industries, i.e. in industries whose US counterparts are more dependent on external finance or display lower asset tangibility. Using the same methodology, a similar type of result can be derived by decomposing the sample between industries with below-median asset tangibility from industries and above-median asset tangibility. This, in turn, suggests either that the growth impact of the cyclical pattern of fiscal policy is of comparable (or even greater) importance to that of more structural features, or that the effect of these structural features operates at least partly through their own effects on the cyclicality of fiscal policy.

Besides these papers above, to our knowledge, the remaining papers using micro level data to analyze fiscal stimulus focus on state or local government levels. For example, Carlino and Inman (2013) examine the historical experience of federal government transfers to state and local governments and their impact on aggregate GDP growth, recognizing that lower-tier governments are their own fiscal agents. taxes on household and firms. They reach three conclusions. First, aggregate federal transfers to state and local governments are less stimulative than are transfers to households and firms. Second, within intergovernmental transfers, matching (price) transfers for welfare spending are more effective for stimulating GDP growth than are unconstrained (income) transfers for project spending. Third, simulations using the SVAR specification suggest ARRA assistance would have been 30 percent more effective in stimulating GDP growth had the share spent on government purchases and project aid been fully allocated to private sector tax relief and to matching aid to states for lower-income support.

Medina (2012), in turn, studies corporate performance in the aftermath of the global crisis by examining 6,581 manufacturing firms in 48 developed and developing countries in 2010, identifying factors of resilience as well as vulnerability. Based on a cross-sectional analysis, the results show that pre-crisis leverage and short-term debt have had negative effects on the speed of the recovery, while asset tangibility has had positive effects. The negative effect of leverage is non-linear, being particularly strong in firms with high precrisis leverage. Furthermore, the effects are different for advanced and emerging market economies. The paper also shows that the macroeconomic framework critically matters for firm growth. In

particular, in countries that have allowed the exchange rate to depreciate, firms have had a faster recovery in sectors highly dependent on trade.

In turn, Woo and others (2014) uses detailed industry-level data for 25 manufacturing industries across 29 OECD countries over the period of 1980-2008 and find a strong negative link between the high public debt and lower growth. They utilize a relatively new methodology of average treatment-effect (ATE) estimators to estimate causal effects by addressing selection bias. Both the regression analysis and ATE estimation strongly indicate a negative causal relation from high public debt to lower industrial growth, while providing significant evidence in support of the interest rate and sovereign risk spillover channel. Industrial growth is significantly lower when the debt level is above 90 percent of GDP, which is in line with the studies that find at the aggregate country level the threshold is in the range of 80-90 percent of GDP.

The paper is also related to the general literature on fiscal multipliers, including those seeing the impacts on private investment and employment (see Baum, Poplawski-Ribeiro, and Weber, 2012; Dell'Erba, Koloskova, and Poplawski-Ribeiro, 2014; and for two recent surveys of the literature Mineshima and others, 2014, and Gechert, 2015).

Our paper is also related to the growing literature using firm level data to analyze other variables in macroeconomics. For example, Kalemli-Ozcan, Sorensen, and Yesiltas (2011) present new stylized facts on bank and firm leverage for 2000-2009 using micro level data from several countries. Using the ORBIS database provided by Bureau van Dijk Electronic Publishing (BvD) between 2000-2009, they find that before the crisis there was very little buildup in leverage for the average non-financial firm and commercial bank, but the picture was quite different for large commercial banks in the United States and for investment banks worldwide.

In turn, Andrews, Criscuolo, and Gal (2015) analyses the characteristics of firms that operate at the global productivity frontier and their relationship with other firms in the economy, focusing on the diffusion of global productivity gains and the policies that facilitate it. They find that firms at the global productivity frontier – defined as the most productive firms in each two-digit industry across 23 countries – are typically larger, more profitable, younger and more likely to patent and be part of a multinational group than other firms. Despite the slowdown in aggregate productivity, productivity growth at the global frontier remained robust over the 2000s. Their analysis reveals a highly uneven process of technological diffusion. Moreover, econometric analysis suggests that well-designed framework policies can aid productivity diffusion by sharpening firms' incentives for technological adoption and by promoting a market environment that reallocates resources to the most productive firms. There is also a role for R&D tax incentives, business-university R&D collaboration and patent protection but trade-offs emerge which can inform the design of innovation policies

Gal, Hijzen, Wolf (2013) also investigate the role of policies and institutions for aggregate labour market dynamics during the recent financial crisis using firm-level data. They show that differences in firm-level labor adjustment accounts for about 40 percent of the cross-country variation in aggregate employment growth at the outset of the crisis. This is

interpreted as evidence that differences in institutional settings accounted for a substantial part of the variation in aggregate employment growth. Moreover stronger protection for regular workers is associated with lower (higher) employment (earnings-per-worker) response in the wake of output shocks. This suggests that employment protection shifts the burden of adjustment from the extensive to the intensive margin. However, in explaining the diverse cross-country patterns in employment adjustment during the crisis, the impact of employment protection alone seems to be small.

Gal and Pinter (2013) further investigate the share of capital rented vs. owned in the US. Using firm level data, they find that capital renting makes up one fifth of US capital expenditures, and it increases during downturns. They further present cross-country evidence that output losses after financial crises are smaller where renting is more prevalent. They indeed use US firm-level data to show that more financially constrained firms tend to rely more on renting, as indicated by their higher share of renting among capital expenditures. Second, they establish that renting is countercyclical and link it to cyclical changes in credit standards. Finally, using cross-country aggregate data, they show that countries with a larger rental sector experience a smaller output loss after financial crises.

In turn, Aivazian, Rahaman, and Sun (2012) study how costly are systemic credit contractions using episodes of systemic banking crises across many countries and compare firm sales, profitability and investment during crisis, post-crisis, and pre-crisis periods. They use firm level data and find that credit contractions are costly for firms and are of similar or higher magnitudes compared to costs of financial distress. The costs are higher for firms normally more reliant on the external capital market for their financing needs. Their results also show that externally dependent firms recover more quickly towards their pre-crisis levels of investment, and that the recovery is facilitated when the external capital market is deep or well developed. They further find that the bank-lending channel mechanism is a more plausible explanation for the empirical effects of credit contractions than the borrowers' balance sheet channel.

III. THE ECONOMETRIC MODEL AND METHODOLOGY

A. Data

Worldscope

The principal source for compiling the database employed in this study is Worldscope [2013] (Thomson Financial), a data set that compiles publicly traded firms' balance sheet information.

We obtain annual data from Worldscope on the balance sheet, cash flow and income statements for all listed, non-financial manufacturing companies. The data cover 42 advanced countries and emerging markets (note that the U.S. is excluded as it was both the source of the financial crisis and the country whose data are used to define the sector characteristics used below). The number of listed manufacturing firms by country for the last year of the

sample (2009) is presented in Table 1. (Our sample period is from 2007 to 2009.) The key dependent variables are the changes from 2007 to 2008/2009 in three ratios: firm-level profits/assets, sales/assets and investments/assets. They are all winsorized at the 1% level to reduce the impact of outliers. All right-hand-side variables are measured using data prior to 2007.

For the purpose of characterizing firms' growth during the recovery, a database has been compiled containing data for 6,581 publicly listed manufacturing firms in 48 countries (21 advanced economies and 27 emerging economies; see Tables 1 and 2). The sample has been restricted to firms in the manufacturing sector (Standard Industrial Classification [SIC] codes 200 to 399), to enable the study to exploit the fact that they share certain characteristics, allowing for a robust analysis. Financial firms, for example, such as banks and insurance companies, are excluded because they differ from manufacturing firms in many aspects: first, leverage in financial firms is influenced by investor insurance schemes, which is generally not the case among manufacturing firms; second, debt-like liabilities are not comparable in the two sectors; and finally, regulations such as minimum capital requirements that affect primarily financial sector firms rather than those in other sectors may directly influence those firms' capital structure.15

The data employed in this study are based on annual reports from Worldscope (Thomson Financial), a data set that compiles publicly traded firms' balance sheet information. This data set is balanced, meaning that all firms have observations for all variables.16 The data set covers mostly large firms, essentially because they must be listed on a stock exchange to be included, and these firms tend to be large. Furthermore, the database allows for sectoral analysis of firm performance exploiting the SIC industry grouping.17

We use Claessens, Tong and Wei (2012) sector-level and firm-level business cycle sensitivity indexes; sector-level and firm-level trade sensitivity indexes; Sector- and firm-level financial dependence indexes. We use two measures of a firm's intrinsic dependence on external finance: Intrinsic dependence on external finance for investment (DEF_INVj) and Intrinsic dependence on external finance for working capital (DEF_WKj). We construct a sector-level approximation of a firm's intrinsic dependence on external finance for capital investment following the methodology developed by Rajan and Zingales (1998).

Besides capital needed for investment, working capital is required for a firm to operate and to satisfy both short-term debt payment and ongoing operational expenses, and to allow for trade finance. Thus, we follow Raddatz (2006), Claessens, Tong, and Wei (2012) and use a measure of intrinsic dependence on external finance for working capital using the notion of "cash conversion cycle", which is commonly used in financial analysis to measure the liquidity position of a firm. The cycle measures the time elapsed from the moment a firm pays for its inputs to the moment it receives payment for the goods it sells.

Following Tong and Wei (2011), both sector level indexes are constructed as follows. First, for each U.S. firm during 1990–2006, we calculate its dependence on external finance for investment and its cash conversion cycle based on the annual data from Compustat USA Industrial Annual. Second, we define the sector-level value of the two indexes by calculating the median across all firms in the sector (at each SIC 3 digit sector). While the original Rajan and Zingales (1998) paper covered only 40 (mainly SIC 2-digit) sectors, we expand the coverage to 111 3-digit SIC sectors. The index is based on US firms, which are judged to be the least likely to suffer from financing constraints (during normal times) relative to firms in other countries, meaning we can reasonably assume that the same intrinsic external financing dependence applies to firms in all other countries. This assumption is common in the literature (earlier papers that have used such indexes include Claessens and Laeven, 2003; Raddatz, 2006; Kroszner et al., 2007). The literature has also confirmed that the rank order of sectors in terms of finance dependence ratio is similar in Canada (Rajan and Zingales (1998)).

Remaining Data

Fiscal data on spending and revenues comes from the WEO, while inflation and REER are gathered from the IMF's International Financial Statistics. Variables that are expressed in real terms are deflated by using the CPI of the country where the firm is located. The model is estimated using panel techniques with fixed effect OLS (FE-OLS) initially.

B. Estimation Strategy

A spectrum of possible econometric specifications could be estimated. The equation below gives an example of a possible specification (in reality this main specification allows us to test different alternatives) testing the effects of fiscal policy at one indicator of firm contribution to the economy at the sectoral level:

$$Performance_{i,j,k,m} = \left\{ \begin{array}{l} \alpha_j + \alpha_k + \alpha_m + \beta' Control_{i,j,k,m} + \gamma BCS_j \times FP_k \\ + \varphi EFD_j \times MP_k + \eta TradeSens_j \times Deval_k + \varepsilon_{i,j,k,m} \end{array} \right\}, \quad (1)$$

Where the dependent variable $Performance_{i,j,k,m}$ is measured by three alternative variables: (a) profits in percent of total assets, (b) sales in percent of total assets, and (c) capital expenditures in percent of total assets. All these variables measured as the percentage change in 2010 with respect to 2009, for a firm i belonging to an economic sector j, in a country k in region m.

; $\alpha_j, \alpha_k, \alpha_m$ are sector, country, and region fixed-effects, respectively;

$Control_{i,j,k,m}$ is a vector of firm level characteristics, including: $Size_{i,j,k,m}$ is the natural log of total assets in millions of U.S. dollars; $Lev_{i,j,k,m}$ is leverage, defined as the ratio of total liabilities to total assets; $Stdebt_{i,j,k,m}$, the ratio of short-term debt and the portion of long-term debt payable within one year to total debt;

BCS_j stands for Business Cycle Sensitivity of sector j and measures the demand sensitivity to the business cycle. We follow the work by Tong and Wei (2008), who develop such a sector-level sensitivity index using the stock price reactions of US firms to the September 11, 2001 terrorist attack. They compute the change in log stock price for each US firm between September 10 and September 28, 2001. They then calculate the mean log stock price change for all firms in each three-digit SIC sector, and use it as a measure of sector-level sensitivity to the business cycle. Excluding financial sector firms, they do this for 361 three-digit level sectors. This approach assumes that sensitivity to business cycle is an intrinsic property of a sector, and therefore the index derived from the pre-crisis data is applicable to firms in the same sector across all countries during the crisis.

FP_k measures the fiscal policy during the crisis. We will explore two alternative measures: (a) counter-cyclical policy as measured by a ILO and WB survey, and (b) the structural fiscal balance (IMF WEO).

EFD_j stands for External Financial Dependency; We use two measures of a firm's intrinsic dependence on external finance: Intrinsic dependence on external finance for investment (DEF_INVj) and Intrinsic dependence on external finance for working capital (DEF_WKj). Following Claessens et al. (2012) we construct a sector-level approximation of a firm's intrinsic dependence on external finance for capital investment based on the methodology developed by Rajan and Zingales (1998).

MP_k monetary stimulus is proxied by two alternative measures: (a) the change in nominal short-term interest rates, as also used by Laeven and Valencia (2011). We interact this measure with DEP_INV and DEP_WK to examine the impact of monetary stimulus on profits, sales, and investment through the financing channel. We do not include monetary stimulus on its own as it is captured by the country fixed effects. Both the fiscal and monetary stimulus might be endogenous as they could be driven by the severity of the shocks and the depth of the recession within the country. Since this would bias the coefficients toward zero, to the extent that we find statistically significant effects, we can reasonably argue that the stimulus played a positive role; and (b) the change in the money base over GDP.

$TradeSens_j$ a sector-level measure of sensitivity to trade is constructed by regressing the change in the log global exports at the 3-digit sector level over the period 2000–2006 on the

change in log global GDP (in US dollars) during the same period. We then use the coefficient on global GDP as the sector-level trade sensitivity. Note that this trade sensitivity index is neither country nor firm specific, similar to the earlier sector index for business cycle sensitivity.

$Deval_k$ Real depreciation is accounted for by exploiting the change in the REER,1 an average of the bilateral real exchange rates between the country and each of its trading partners, weighted by the respective trade shares of each partner.

What is gained by moving from cross-country to cross-industry analysis? As Aghion, Hemous, and Kharroubib (2014) discuss cross-country analyses raises at least three issues. First, the cyclicality of fiscal policy is typically captured by a unique time-invariant parameter which only varies across countries. As a result, standard cross-country panel regression cannot be used to assess the effect of the cyclical pattern of fiscal policy on growth inasmuch as the former is perfectly collinear to the fixed effect that is traditionally introduced to control for unobserved cross-country heterogeneity. Second, the causality issue (does fiscal policy cyclicality have an impact on growth or does growth affect the cyclical pattern of fiscal policy) cannot be properly addressed while keeping the analysis at a purely macroeconomic level. A final concern is identification: a cross-country panel regression, particularly one which is restricted to a small cross-country sample, is unlikely to be robust to the inclusion of additional control variables reflecting alternative stories. Thus, even if cross-country panel regressions point to correlations between the cyclical pattern of fiscal policy and growth, the channel through which this correlation works is unlikely to be well identified.

Our industry-level analysis helps us address these concerns. First, even though the stimulus of fiscal policy is estimated at the country level with a time-invariant coefficient, which implies that fiscal policy countercyclicality in each country is collinear to that country's fixed effect, the interaction between the country-level measure of countercyclicality and the industry level variable is not. Second, at the cross-industry level, there are enough observations to ensure that the results withstand the introduction of country and industry fixed effects plus a whole set of structural variables as additional controls. Finally, macroeconomic policy should affect industry-level 1 growth whereas the opposite – industry-level growth affecting macroeconomic policy – is less likely to hold. Thus, the presence of a positive and significant interaction coefficient in the industry-level regressions is more likely to reflect a causal impact of the cyclical pattern of fiscal policy on growth. However, there is a downside to the industry-level investigation: namely, that our cross-country/cross-industry

[1] In this case, an increase means depreciation.

analysis has little to say about the aggregate magnitude of the macroeconomic growth gain/loss induced by the fiscal stimulus.

Yet, both the fiscal and monetary stimulus in this equation might be endogenous as they could be driven by the severity of the shocks and the depth of the recession within the country. Since this would bias the coefficients toward zero, to the extent that we find statistically significant effects, we can reasonably argue that the stimulus played a positive role.

IV. RESULTS

In this section, we display the results of the estimations.

A. Profits

Table [1] shows the effects of fiscal stimulus on the changes in profits. Our baseline equation includes (i) the stimulus interacted with the business cycle sensitivity; (ii) changes in short-term interest interacted either with the working capital or investment dependence; and (iii) the log of total assets for the firm.

For our entire sample, we find that the fiscal stimulus significantly increased firms' profits during the crisis. Remember that fiscal stimulus is here measured as a change to the primary balance. So, a statistically significant negative sign in the Column 1 of the Table 1 indicates that even when controlling for monetary policy stimulus, a change towards large primary deficits (negative change in the primary balance) leads to a positive change in firms' profits. This is also true in [all] other columns, including in the last column in which we perform a horse race of all explanatory variables in our model. The value of the coefficient remains around -0.03, which suggests that an increase in the primary deficit in one percent of GDP leads to an increase in profits of 0.03 percent. In turn, a reduction in the short-term interest interacted with working capital dependence is also highly significant to increase profits in all estimations

As previously discussed in this paper, the stock of debt (firm leverage) and firms' liquidity (ratio of cash to total assets) may have an impact on how fiscal policy may support those firms' recovery. Therefore, Table [2] displays the results when look at the cases in which the firm uses cash or not. The results indicate that in both cases, including or not cash, an increase in short-term interest rate interacted with dependence of working capital and the level of leverage reduces firms profits. After controlling for total assets, piling up cash seems to be a bad strategy in the sense that it also reduces profits.

This seems in line with the prediction of Fernandez-Villaverde et al. (2015) that a larger fiscal volatility (here captured by higher stimulus) increase markups. Why do markups increase after a fiscal volatility shock? Because of two channels: an aggregate demand

channel and an upward pricing bias channel. Both of these are related to nominal rigidities. We start with the fall in aggregate demand. As we argued before, faced with higher uncertainty, households want to consume and invest less. In the absence of nominal rigidities, the effect of the scramble to lower consumption and investment would be small. With rigidities, however, prices do not fully accommodate the lower demand. Thus, markups rise and output falls. The upward pricing bias channel leads firms, after a fiscal volatility shock, to set prices higher than they would otherwise do. With Rotemberg adjustment costs, the price that the firm sets today determines how costly it will be to change to a new price tomorrow. But because the profit function is asymmetric (it is more costly for the firm to set too low a price relative to its competitors, rather than setting it too high), firms bias their pricing decision today upward.

A fiscal volatility shock increases the dispersion of future capital income tax rates and with them, the dispersion of future marginal costs and the probable range for the optimal price tomorrow. Firms respond by biasing their pricing decision upward more than they would do otherwise. Realized marginal costs fall because firms, given the fall in output, rent less capital and this lowers the rental rates. Wages, subject to rigidities, barely move and the labor market clears through a reduction in hours worked. Higher prices and lower marginal costs produce a rise in markups.

Our next analysis is to zoom in emerging economies in the sample whose results are displayed in Table 3. Again for these economies, an increase in fiscal stimulus leads to higher profits. The values are similar to those for the entire sample. Interestingly, monetary policy seems to not matter for this sample as much as for the global sample. The short term interest rate is not significant for all specifications, but only when the firm level of debt is included in the estimation. The results for the other variables are fairly similar to the ones in the global sample, including those when we distinguish between firms using cash or not.

Thus, the fact that fiscal stimulus improves firms' profits without having a significant impact on sales, suggests that part of the stimulus in the sample analyzed may have taken place through an increase in credit to firms from stated-owned banks and other government institutions, helping those firms to improve their balance sheets even if the increase in sales is not significant per se. This is the case in both full sample and only for emerging economies.

B. Sales

Table [2] shows the effects of fiscal stimulus on the changes in sales. As in the case for profits, our baseline equation includes (i) the stimulus interacted with the business cycle sensitivity; (ii) changes in short-term interest interacted either with the working capital or investment dependence; and (iii) the log of total assets for the firm.

For our entire sample, the fiscal stimulus does not significantly increase firms' sales. In turn, the a reduction in the short term interest rate coupled with working capital still is highly significant in explaining an increase in manufacturing firms. This suggests a strong the power of monetary policy effect on the aggregate demand, whereas fiscal policy may be more relevant at exceptional cases, particularly when countries reach the zero lower bound.

The amount of total assets, indicating the size of the firm has a negative and significant size all equations with changes in total sales, suggesting that the larger firms are the ones that experienced a larger decrease in sales during the sample period investigated. The stock of cash and short term investment enters significantly negative in all specifications. These suggests a negative relationship between hoarding cash (or short-term instruments) and total sales. At the same time, the log of total debt enters with positively significant coefficient on this equation, suggesting that manufacturing firms that borrowed more (most likely to invest given the results on hoarding cash) had a higher increase in sales.

For emerging economies, the results are much weaker when we use change in manufacturing firms' real sales as dependent variable. Several variables have the opposite coefficient value for this group of countries compared with those values for the global sample. Moreover, when we perform a horse race, all variables loose significance, apart of the short-term interest rate interacted with working capital, which has a positive sign at a marginal significance rate (10 percent). That value may suggest that the increase in interest rate by authorities may be associated with a fast (inflationary) increase in aggregated demand, when both the interest rate and sales are increasing at the same time. However, in the horse race the stock of cash and short term investment enters significantly negative in all specifications, suggesting the negative relationship between hoarding cash (or short-term instruments) and total sales remains significant also for the group of emerging economies only.

Another reason for the non-significant impact of the stimulus on firms' sales comes from Di Giovanni, Levchenko, and Mejean (2014). Those authors use a data base covering the universe of French firms for the period 1990–2007 to provide a forensic account of the role of individual firms in generating aggregate fluctuations. We set up a simple multisector model of heterogeneous firms selling to multiple markets to motivate a theoretically founded decomposition of firms' annual sales growth rate into different components.We find that the firm-specific component contributes substantially to aggregate sales volatility, mattering about as much as the components capturing shocks that are common across firms within a sector or country. They then decompose the firm-specific component to provide evidence on two mechanisms that generate aggregate fluctuations from microeconomic shocks highlighted in the recent literature: (i) when the firm size distribution is fat-tailed, idiosyncratic shocks to large firms directly contribute to aggregate fluctuations, and (ii) aggregate fluctuations can arise from idiosyncratic shocks due to input–output linkages across the economy. Firm linkages are approximately three times as important as the direct effect of firm shocks in driving aggregate fluctuations.

Thus, the our finding that fiscal stimulus improves firms' profits without having a significant impact on sales, suggests that part of the stimulus in the sample analyzed may have taken

place through an increase in credit to firms from stated-owned banks and other government institutions, helping those firms to improve their balance sheets even if the increase in sales is not significant per se. This is the case in both full sample and only for emerging economies.

C. Capital Expenditure

How is fiscal stimulus associated with firms' capital expenditure? For our entire sample, the fiscal stimulus seems to be negatively associated with an increase in capital expenditure. This may be due to a co-founding factor between the low aggregate demand and, therefore, decrease in capital expenditure and the need for fiscal stimulus. Again, a reduction in the short term interest rate coupled with working capital is highly significant in explaining an increase in manufacturing firms' capital expenditure, indicating the power of monetary policy to stimulate firms' behavior. In line with the theory of firms creation and destruction, large firms with a higher stock of assets are the ones spending less in capital expenditure. That is also the case for the firms highly leveraged, whereas for firms with higher stock of debt, the result is less clear cut. In the analysis using a horse race both variables on the total stock of debt and short-term debt, the coefficients are statistically positive, suggesting that a higher level of (short-term) debt leads to a higher level of capital expenditure. Manufacturing firms may borrowing more use that for capital expenditure increases.

For emerging economies, only three variables survive our horse race analysis. As for sales, a decrease in short-term rates interacted with working capital is associated with a significantly marginal decrease in capital expenditures, which again indicates a co-founding factor between a decrease in aggregate demand and investment in those emerging economies. More importantly, the leverage level is a highly significant and negative variable in explaining capital expenditure. So, manufacturing firms that are highly leveraged in emerging economies clearly reducing their level of capital expenditure. That is another reason for why addressing highly leverage levels among manufacturing firms is so relevant for recoveries and boosting aggregate demand. Yet, a high level of short-term debt in manufacturing firms in emerging economies is associated with a higher capital expenditure, suggesting that this short-term borrowing is channeled to larger investments on those firms.

V. Concluding Remarks

The preliminary objective and innovation of the paper is to shed some light on whether fiscal policy indeed has an a "multiplier" effect at the firm level and whether this is sector dependent or not. The paper could also investigate whether the this impact of fiscal policy on firms added value and profitability have has changed after the financial crisis and what was the impact of the designed stimulus packages at the firm level for different sectors of the economy. Looking ahead this analysis could be instrumental in understanding which sectors are more sensitive to fiscal policy and, therefore, from fiscal consolidations plans.

TABLES AND FIGURES

Table 1. Results for All Countries for Profits

	ΔProfit																
	Baseline	Control variables one by one						Without cash			Using Cash						All Variables
								No Debt	Log Tot Debt	ST Debt	Log Cash	Cash Ratio	Log Tot Debt		ST Debt		
													Log Cash	Cash Ratio	Log Cash	Cash Ratio	
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Fiscal Stimulus *Business Cycle Sensitivity	-0.045040***	-0.027945***	-0.044181***	-0.032167***	-0.040161***	-0.026029**	-0.037678***	-0.027942***	-0.026195***	-0.026796***	-0.028557***	-0.027963***	-0.026701***	-0.026358**	-0.027286***	-0.026904***	-0.027696***
	[0.011075]	[0.010476]	[0.011224]	[0.010612]	[0.010943]	[0.010205]	[0.010798]	[0.010488]	[0.010152]	[0.010142]	[0.010315]	[0.010526]	[0.010019]	[0.010232]	[0.009998]	[0.010193]	[0.010131]
Change in ST interest rate*DEP_WK	-0.004476***	-0.002584***	-0.004401***	-0.003114***	-0.003724***	-0.002490***	-0.003829***	-0.002613***	-0.002536***	-0.002441***	-0.002070***	-0.002552***	-0.001968**	-0.002520***	-0.001913**	-0.002410***	-0.001788**
	[0.000617]	[0.000767]	[0.000655]	[0.000715]	[0.000679]	[0.000788]	[0.000697]	[0.000763]	[0.000776]	[0.000797]	[0.000748]	[0.000760]	[0.000764]	[0.000778]	[0.000785]	[0.000797]	[0.000785]
Change in ST interest rate*DEP_INV	-0.071037**	-0.055293*	-0.070963**	-0.059925*	-0.055910*	-0.013139	-0.017819	-0.055329*	-0.013360	-0.007761	-0.062286*	-0.052297*	-0.018477	-0.010149	-0.013497	-0.005239	-0.008426
	[0.033273]	[0.031097]	[0.033050]	[0.034804]	[0.031583]	[0.028451]	[0.028889]	[0.031109]	[0.028737]	[0.026107]	[0.032946]	[0.029705]	[0.029079]	[0.029365]	[0.026765]	[0.026459]	[0.027992]
Log of (US$) tot. assts, 2007		0.064301***						0.068532***	-0.016987	0.105168***	0.223778***	0.063361***	0.159573*	-0.060167	0.240473***	0.099378***	0.155657
		[0.013153]						[0.013333]	[0.072104]	[0.021819]	[0.046980]	[0.016594]	[0.092214]	[0.077932]	[0.053676]	[0.023297]	[0.097762]
Leverage, 2007			0.069506					-0.105295**	-0.132105***	-0.106304**	-0.138522***	-0.099191**	-0.151492***	-0.130814***	-0.132524***	-0.100512**	-0.142897***
			[0.169489]					[0.047997]	[0.038809]	[0.045147]	[0.041793]	[0.048728]	[0.038809]	[0.039006]	[0.040944]	[0.046017]	[0.037956]
Log of (US$) Stock of cash and ST inv, 2007				0.044951***							-0.145176***		-0.135081***		-0.129452***		-0.163526***
				[0.012168]							[0.042391]		[0.045822]		[0.046219]		[0.051457]
Cash total assets ratio, 2007					2.021856**							0.547307		1.206720		0.760420	2.503936**
					[0.836781]							[1.007908]		[1.043067]		[1.006328]	[1.153050]
Log (US$) total debt, 2007						0.085920***			0.111759				0.073243	0.149208*			0.112090
						[0.015442]			[0.084767]				[0.085038]	[0.087783]			[0.089849]
Short term debt ratio, 2007							0.688250***			-0.554104*					-0.505074	-0.579461*	-0.468003
							[0.209749]			[0.334049]					[0.323551]	[0.335377]	[0.330339]
Observations	8,301	8,301	8,297	8,244	8,286	7,574	7,492	8,297	7,573	7,491	8,242	8,284	7,529	7,567	7,449	7,485	7,449
R-squared	0.024	0.028	0.024	0.026	0.025	0.030	0.027	0.028	0.030	0.031	0.030	0.028	0.032	0.031	0.032	0.031	0.034
Adj R-squared	0.024	0.027	0.024	0.025	0.025	0.030	0.026	0.028	0.030	0.030	0.029	0.028	0.031	0.030	0.032	0.031	0.032
F test	30.690	30.960	23.500	25.850	23.350	34.010	25.570	25.230	24.620	24.240	25.820	21.550	24.150	21.130	23.940	20.710	19.370
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 2. Results for All Countries for Sales

ΔSales																
Baseline	Control variables one by one						Without cash			Using Cash						All Variables
							No Debt	Log Tot Debt	ST Debt	Log Cash	Cash Ratio	Log Tot Debt		ST Debt		
												Log Cash	Cash Ratio	Log Cash	Cash Ratio	
(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)
0.071721*	0.043709	0.070613*	0.036148	0.068277*	0.046911	0.046887	0.043703	0.039441	0.038461	0.041230	0.043639	0.036860	0.039123	0.035382	0.038517	0.033837
[0.037660]	[0.031844]	[0.037414]	[0.030455]	[0.036251]	[0.033095]	[0.034477]	[0.031846]	[0.031767]	[0.032355]	[0.030129]	[0.031900]	[0.030421]	[0.031804]	[0.030688]	[0.032371]	[0.030075]
-0.003104**	-0.006053***	-0.003250**	-0.006501***	-0.003618**	-0.005120**	-0.004930***	-0.006064***	-0.006622***	-0.005924***	-0.004965**	-0.005924***	-0.005538**	-0.006552***	-0.004788**	-0.005920***	-0.005140**
[0.001342]	[0.001996]	[0.001354]	[0.001808]	[0.001470]	[0.002003]	[0.001654]	[0.001997]	[0.002086]	[0.002100]	[0.002103]	[0.001979]	[0.002243]	[0.002078]	[0.002245]	[0.002093]	[0.002272]
0.036104	0.011766	0.035644	-0.008047	0.024027	0.042362	0.042474	0.011917	0.021686	0.035264	-0.011646	0.019794	-0.000958	0.033780	0.009209	0.036440	0.018891
[0.041364]	[0.043242]	[0.041319]	[0.044348]	[0.040163]	[0.044836]	[0.046207]	[0.043243]	[0.046639]	[0.046887]	[0.047973]	[0.043853]	[0.052344]	[0.048128]	[0.053621]	[0.046859]	[0.057693]
	-0.102515**						-0.102497**	-0.776002***	-0.075468	0.310251**	-0.115582**	-0.319928	-0.901852***	0.331926**	-0.078695	-0.494265**
	[0.049669]						[0.049811]	[0.150829]	[0.060132]	[0.144649]	[0.053480]	[0.220280]	[0.174654]	[0.154321]	[0.064809]	[0.226658]
		-0.102391					-0.004199	-0.072977	0.043854	-0.037820	0.005271	-0.087842	-0.069942	-0.000580	0.056235	-0.162463
		[0.111300]					[0.059502]	[0.069067]	[0.136360]	[0.060729]	[0.057631]	[0.067168]	[0.066575]	[0.144629]	[0.127331]	[0.235559]
			-0.122345***							-0.391294***		-0.353149**		-0.406067***		-0.457778***
			[0.046862]							[0.140898]		[0.148847]		[0.151257]		[0.172333]
				-1.439328							1.263006		3.492655		0.260145	6.629303**
				[1.620868]							[1.580028]		[2.163303]		[1.996894]	[2.728191]
					-0.085371			0.789370***				0.688969***	0.898477***			0.923285***
					[0.057198]			[0.163447]				[0.162416]	[0.177993]			[0.187509]
						-1.497900**			-0.594501					-0.201092	-0.583653	0.455165
						[0.702195]			[0.686387]					[0.690384]	[0.677836]	[0.714644]
8,512	8,512	8,508	8,454	8,494	7,709	7,629	8,508	7,708	7,628	8,452	8,492	7,662	7,699	7,582	7,619	7,582
0.004	0.006	0.004	0.008	0.004	0.004	0.005	0.006	0.009	0.006	0.009	0.006	0.012	0.010	0.009	0.006	0.014
0.003	0.005	0.003	0.007	0.003	0.004	0.005	0.005	0.008	0.005	0.009	0.005	0.011	0.009	0.008	0.005	0.013
2.798	2.558	2.185	3.419	2.163	1.924	2.439	2.050	5.105	1.661	4.144	1.782	5.680	4.571	3.345	1.423	4.632
0.039	0.037	0.068	0.009	0.071	0.104	0.045	0.069	0.000	0.127	0.000	0.099	0.000	0.000	0.002	0.192	0.000

Table 3. Results for All Countries for Capital Expenditure

ΔCapEX																
Baseline	Control variables one by one						Without cash			Using Cash						All Variables
							No Debt	Log Tot Debt	ST Debt	Log Cash	Cash Ratio	Log Tot Debt		ST Debt		
												Log Cash	Cash Ratio	Log Cash	Cash Ratio	
(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)
0.021182***	0.011844***	0.016533***	0.012186***	0.018821***	0.013349***	0.019336***	0.011830***	0.012676***	0.012528***	0.011749***	0.011764***	0.012666***	0.012674***	0.012443***	0.012534***	0.012398***
[0.004860]	[0.003723]	[0.004349]	[0.003578]	[0.004530]	[0.003912]	[0.004491]	[0.003725]	[0.003829]	[0.003836]	[0.003667]	[0.003727]	[0.003778]	[0.003828]	[0.003746]	[0.003840]	[0.003742]
0.000250	-0.000754***	-0.000248	-0.000583***	-0.000112	-0.000687***	-0.000083	-0.000755***	-0.000832***	-0.000901***	-0.000708***	-0.000780***	-0.000791***	-0.000847***	-0.000828***	-0.000942***	-0.000937***
[0.000160]	[0.000237]	[0.000186]	[0.000217]	[0.000186]	[0.000245]	[0.000203]	[0.000236]	[0.000256]	[0.000252]	[0.000247]	[0.000236]	[0.000273]	[0.000256]	[0.000265]	[0.000252]	[0.000271]
0.014760	0.007176	0.012325	0.006119	0.006390	0.010359	0.014805	0.007212	0.008155	0.009946	0.006465	0.006201	0.007434	0.007570	0.008836	0.007874	0.006782
[0.011675]	[0.009757]	[0.010572]	[0.009587]	[0.012658]	[0.009514]	[0.010919]	[0.009762]	[0.009502]	[0.009640]	[0.009658]	[0.010378]	[0.009445]	[0.010026]	[0.009497]	[0.010462]	[0.010197]
	-0.034564***						-0.034193***	-0.070370***	-0.058082***	-0.022668	-0.032186***	-0.062455*	-0.061991**	-0.037271*	-0.053738***	-0.107567***
	[0.006435]						[0.008316]	[0.020799]	[0.010305]	[0.020577]	[0.009662]	[0.033906]	[0.024736]	[0.021268]	[0.011074]	[0.032742]
		-0.404340***					-0.011265	-0.101037	-0.043223	-0.038768	-0.022137	-0.137809	-0.100527	-0.076381	-0.067820	-0.184625*
		[0.090994]					[0.117526]	[0.114857]	[0.111207]	[0.119945]	[0.120918]	[0.109666]	[0.114864]	[0.109863]	[0.109118]	[0.098272]
			-0.030712***							-0.009708		-0.007506		-0.018939		-0.012261
			[0.006213]							[0.019212]		[0.021500]		[0.021820]		[0.024497]
				-0.924778***							-0.162548		-0.205436		-0.492345*	-0.167428
				[0.210551]							[0.241472]		[0.317444]		[0.298080]	[0.384683]
					-0.037446***			0.046499*				0.048337*	0.038776			0.076337***
					[0.007624]			[0.024510]				[0.025459]	[0.026566]			[0.027695]
						-0.221539**			0.515817***					0.525977***	0.536990***	0.599586***
						[0.091111]			[0.108276]					[0.113813]	[0.108367]	[0.114911]
8,161	8,161	8,157	8,109	8,144	7,385	7,315	8,157	7,384	7,314	8,107	8,142	7,341	7,376	7,271	7,306	7,271
0.009	0.018	0.014	0.018	0.012	0.018	0.012	0.018	0.020	0.022	0.019	0.018	0.020	0.020	0.023	0.023	0.024
0.009	0.018	0.013	0.018	0.012	0.018	0.011	0.018	0.019	0.022	0.018	0.018	0.019	0.019	0.022	0.022	0.023
8.589	9.706	8.693	8.889	9.419	9.127	6.878	7.886	7.235	9.389	7.953	7.370	7.743	6.813	9.430	9.568	9.984
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 4. Results for Advanced Economies for Profits

	ΔProfit																
	Baseline	Control variables one by one						Without cash			Using Cash						All Variables
								No Debt	Log Tot Debt	ST Debt	Log Cash	Cash Ratio	Log Tot Debt		ST Debt		
													Log Cash	Cash Ratio	Log Cash	Cash Ratio	
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Fiscal Stimulus *Business Cycle Sensitivity	-0.042387**	-0.023967	-0.026504	-0.033105*	-0.037067**	-0.022093	-0.037681**	-0.023578	-0.021730	-0.022583	-0.024425	-0.023115	-0.022744	-0.021748	-0.023094	-0.022312	-0.022805
	[0.017061]	[0.017420]	[0.017726]	[0.017073]	[0.017255]	[0.017092]	[0.016610]	[0.017475]	[0.017000]	[0.017082]	[0.017180]	[0.017679]	[0.016703]	[0.017123]	[0.016809]	[0.017181]	[0.016866]
Change in ST interest rate*DEP_WK	-0.005253***	-0.003206***	-0.003454***	-0.004277***	-0.004263***	-0.003090***	-0.004916***	-0.003157***	-0.002950***	-0.002995***	-0.001981*	-0.002713**	-0.001691	-0.002696**	-0.001807	-0.002645**	-0.000835
	[0.000796]	[0.001125]	[0.001032]	[0.000978]	[0.000965]	[0.001148]	[0.000914]	[0.001114]	[0.001118]	[0.001146]	[0.001126]	[0.001138]	[0.001147]	[0.001133]	[0.001175]	[0.001163]	[0.001229]
Change in ST interest rate*DEP_INV	-0.059624*	-0.047187	-0.055180	-0.055409	-0.041693	0.012292	0.004014	-0.051232	0.011396	0.009362	-0.058206	-0.039905	0.005522	0.021284	0.003765	0.019706	0.020596
	[0.035395]	[0.036044]	[0.035441]	[0.040356]	[0.031353]	[0.026714]	[0.026325]	[0.035170]	[0.026151]	[0.026016]	[0.038191]	[0.031449]	[0.027976]	[0.026431]	[0.028246]	[0.026069]	[0.030588]
Log of (US$) tot. assts, 2007		0.066941***						0.030115	0.012042	0.075698	0.292168***	-0.005907	0.304561**	-0.120199	0.302033***	0.039355	0.193928
		[0.021414]						[0.038588]	[0.105984]	[0.048820]	[0.080373]	[0.042529]	[0.133725]	[0.123731]	[0.085328]	[0.052663]	[0.137619]
Leverage, 2007			1.479819***					0.973373	0.777773	0.824514	0.157552	1.499601*	0.182976	0.899425	0.127724	1.273093	0.258268
			[0.475189]					[0.846149]	[1.051752]	[0.886844]	[0.886059]	[0.854107]	[1.072564]	[1.044684]	[0.908933]	[0.922118]	[1.041891]
Log of (US$) Stock of cash and ST inv, 2007				0.029238							-0.203265***		-0.201483***		-0.190848***		-0.272077***
				[0.017926]							[0.053522]		[0.058011]		[0.060324]		[0.068158]
Cash total assets ratio, 2007					2.313270*							2.097465		3.269944**		2.819513*	5.652080***
					[1.272166]							[1.441648]		[1.575333]		[1.490900]	[1.748010]
Log (US$) total debt, 2007						0.091448***			0.042736				-0.005568	0.160107			0.162994
						[0.024604]			[0.143747]				[0.142746]	[0.154581]			[0.153006]
Short term debt ratio, 2007							0.490253			-0.716006					-0.302708	-0.795805	-0.086607
							[0.371502]			[0.529125]					[0.518726]	[0.527566]	[0.514355]
Observations	4,567	4,567	4,566	4,521	4,561	4,107	4,082	4,566	4,107	4,082	4,520	4,560	4,067	4,103	4,043	4,078	4,043
R-squared	0.033	0.035	0.036	0.032	0.034	0.038	0.035	0.036	0.038	0.039	0.039	0.037	0.042	0.040	0.042	0.041	0.047
Adj R-squared	0.032	0.034	0.035	0.032	0.033	0.037	0.034	0.035	0.037	0.038	0.038	0.036	0.040	0.038	0.041	0.039	0.045
F test	24.460	21.670	22.600	17.930	17.980	23.690	17.240	18.290	16.340	17.560	19.970	15.350	17.390	14.610	17.390	15.390	15.060
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 5. Results for Advanced Economies for Sales

	ΔSales																	
	Baseline	Control variables one by one						Without cash			Using Cash						All Variables
								No Debt	Log Tot Debt	ST Debt	Log Cash	Cash Ratio	Log Tot Debt		ST Debt		
													Log Cash	Cash Ratio	Log Cash	Cash Ratio	
VARIABLES	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)
Fiscal Stimulus *Business Cycle Sensitivity	0.211840***	0.085194**	0.148325***	0.094642**	0.196595***	0.094938**	0.116671**	0.084407**	0.070759	0.070803	0.083473**	0.084789**	0.069511	0.070509	0.069927	0.070742	0.068054
	[0.059271]	[0.042110]	[0.050918]	[0.041533]	[0.054972]	[0.047143]	[0.047756]	[0.042102]	[0.043304]	[0.044046]	[0.041735]	[0.041906]	[0.043349]	[0.043504]	[0.044194]	[0.043925]	[0.043392]
Change in ST interest rate*DEP_WK	-0.006272***	-0.020075***	-0.013742***	-0.017102***	-0.009306***	-0.017385***	-0.014918***	-0.020287***	-0.022103***	-0.020378***	-0.019982***	-0.020456***	-0.022605***	-0.021798***	-0.020690***	-0.020639***	-0.022240***
	[0.001706]	[0.002930]	[0.002675]	[0.002495]	[0.001902]	[0.002967]	[0.002256]	[0.002957]	[0.003146]	[0.003118]	[0.003157]	[0.002920]	[0.003473]	[0.003089]	[0.003420]	[0.003066]	[0.003486]
Change in ST interest rate*DEP_INV	0.109894*	0.022234	0.079932	0.005813	0.047109	0.055819	0.046814	0.024476	-0.008398	0.020917	0.009969	0.017727	-0.020938	0.007694	0.006276	0.013159	-0.010674
	[0.056115]	[0.060107]	[0.054200]	[0.067726]	[0.050675]	[0.065471]	[0.075794]	[0.059115]	[0.062322]	[0.071521]	[0.060296]	[0.058317]	[0.061885]	[0.064822]	[0.070655]	[0.070697]	[0.066724]
Log of (US$) tot. assts, 2007		-0.460683***						-0.415724***	-1.674155***	-0.281206***	-0.297402	-0.404062***	-1.692955***	-1.833487***	-0.290337	-0.267437***	-1.698804***
		[0.072247]						[0.078205]	[0.228762]	[0.083810]	[0.192043]	[0.086805]	[0.313775]	[0.259298]	[0.200122]	[0.091434]	[0.313220]
Leverage, 2007			-6.024869***					-1.252502	-3.755611*	-1.035817	-1.209746	-1.341689	-4.379073*	-3.674375*	-0.809100	-1.131872	-4.100525
			[1.555241]					[1.098989]	[1.921919]	[1.182078]	[1.427264]	[1.160939]	[2.657068]	[1.911087]	[1.524262]	[1.223926]	[2.677137]
Log of (US$) Stock of cash and ST inv, 2007				-0.374324***							-0.110568		-0.008690		-0.006611		-0.006933
				[0.062784]							[0.152103]		[0.157625]		[0.164543]		[0.183129]
Cash total assets ratio, 2007					-7.038136***							-1.003332		3.886071		-1.700803	3.530687
					[1.954098]							[1.954371]		[2.638732]		[2.539413]	[3.210941]
Log (US$) total debt, 2007						-0.448933***			1.574789***				1.627747***	1.718866***			1.663687***
						[0.084343]			[0.288348]				[0.327128]	[0.302831]			[0.349164]
Short term debt ratio, 2007							-7.012216***			-3.438678***					-3.402596***	-3.375598***	-1.667115*
							[1.103333]			[0.905281]					[0.874776]	[0.923624]	[0.884399]
Observations	4682	4682	4681	4637	4675	4172	4147	4681	4172	4147	4636	4674	4131	4167	4106	4142	4106
R-squared	0.023	0.059	0.042	0.058	0.028	0.048	0.051	0.059	0.069	0.061	0.061	0.060	0.071	0.070	0.063	0.061	0.073
Adj R-squared	0.023	0.058	0.042	0.057	0.028	0.047	0.050	0.058	0.068	0.059	0.060	0.058	0.070	0.069	0.061	0.060	0.071
F test	6.874	12.620	7.765	12.970	7.770	9.238	13.460	10.120	12.880	9.717	8.839	8.838	11.410	11.160	8.549	9.830	9.869
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 6. Results for Advanced Economies for Capital Expenditure

	ΔCapEx																
	Baseline	Control variables one by one						Without cash			Using Cash						All Variables
								No Debt	Log Tot Debt	ST Debt	Log Cash	Cash Ratio	Log Tot Debt		ST Debt		
													Log Cash	Cash Ratio	Log Cash	Cash Ratio	
VARIABLES	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)
Fiscal Stimulus *Business Cycle Sensitivity	0.038063***	0.020198***	0.031240***	0.022976***	0.035046***	0.023313***	0.032673***	0.020221***	0.021319***	0.022240***	0.020459***	0.020158***	0.021786***	0.021391***	0.022531***	0.022245***	0.022432***
	[0.007362]	[0.004308]	[0.006128]	[0.004460]	[0.006651]	[0.004696]	[0.005937]	[0.004296]	[0.004337]	[0.004476]	[0.004395]	[0.004262]	[0.004431]	[0.004334]	[0.004556]	[0.004444]	[0.004480]
Change in ST interest rate*DEP_WK	-0.000228	-0.002188***	-0.001052***	-0.001596***	-0.000825***	-0.002085***	-0.001089***	-0.002141***	-0.002395***	-0.002295***	-0.002312***	-0.002228***	-0.002636***	-0.002447***	-0.002457***	-0.002401***	-0.002752***
	[0.000188]	[0.000347]	[0.000324]	[0.000299]	[0.000227]	[0.000359]	[0.000265]	[0.000347]	[0.000373]	[0.000376]	[0.000366]	[0.000348]	[0.000396]	[0.000372]	[0.000396]	[0.000375]	[0.000413]
Change in ST interest rate*DEP_INV	0.019626**	0.008019	0.017409*	0.007707	0.006563	0.014238**	0.016678**	0.006869	0.007937	0.011222	0.006649	0.004502	0.007682	0.006023	0.010742	0.007432	0.004459
	[0.009273]	[0.007621]	[0.008913]	[0.007340]	[0.010656]	[0.007167]	[0.007150]	[0.007526]	[0.006726]	[0.006960]	[0.007825]	[0.007845]	[0.007244]	[0.007124]	[0.007208]	[0.007517]	[0.008473]
Log of (US$) tot. assts, 2007		-0.065140***						-0.078436***	-0.142870***	-0.089072***	-0.121729***	-0.074577***	-0.208744***	-0.122042***	-0.125891***	-0.082326***	-0.202634***
		[0.009514]						[0.010845]	[0.023495]	[0.012603]	[0.023187]	[0.012307]	[0.037549]	[0.028482]	[0.024591]	[0.013299]	[0.035068]
Leverage, 2007			-0.667656***					0.360554**	0.145590	0.337496**	0.487546**	0.317156*	0.157794	0.147398	0.467565**	0.274655*	0.145343
			[0.219566]					[0.148756]	[0.170811]	[0.146195]	[0.192165]	[0.161805]	[0.243724]	[0.170444]	[0.203148]	[0.149185]	[0.232457]
Log of (US$) Stock of cash and ST inv, 2007				-0.047974***							0.034020*		0.042660**		0.031927		0.046565*
				[0.008849]							[0.019157]		[0.021340]		[0.022780]		[0.026353]
Cash total assets ratio, 2007					-1.330676***							-0.307553		-0.466354		-0.695601**	-0.765489*
					[0.246356]							[0.254168]		[0.341518]		[0.315064]	[0.447631]
Log (US$) total debt, 2007						-0.070282***			0.081513***				0.102096***	0.061486**			0.087289***
						[0.011352]			[0.027594]				[0.031577]	[0.030497]			[0.032792]
Short term debt ratio, 2007							-0.614309***			0.241047**					0.143495	0.266919**	0.226971*
							[0.141396]			[0.115916]					[0.127840]	[0.116985]	[0.130340]
Observations	4601	4601	4600	4560	4594	4110	4087	4600	4110	4087	4559	4593	4071	4105	4048	4082	4048
R-squared	0.029	0.060	0.038	0.054	0.037	0.060	0.042	0.061	0.067	0.067	0.063	0.062	0.070	0.068	0.069	0.069	0.072
Adj R-squared	0.029	0.059	0.038	0.053	0.036	0.059	0.041	0.060	0.066	0.066	0.062	0.061	0.068	0.066	0.067	0.067	0.070
F test	9.034	14.010	8.392	11.850	11.860	12.960	9.784	12.770	12.770	11.300	13.950	12.540	15.020	11.910	12.180	11.350	12.350
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 7. Results for Emerging Economies for Profits

	ΔProfit																
	Baseline	Control variables one by one						Without cash			Using Cash						All Variables
								No Debt	Log Tot Debt	ST Debt	Log Cash	Cash Ratio	Log Tot Debt		ST Debt		
													Log Cash	Cash Ratio	Log Cash	Cash Ratio	
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Fiscal Stimulus *Business Cycle Sensitivity	-0.044838***	-0.029535**	-0.044981***	-0.030138**	-0.042051***	-0.027889**	-0.035801***	-0.029685**	-0.028078**	-0.029251**	-0.029849**	-0.029328**	-0.028145**	-0.027716**	-0.029287**	-0.028859**	-0.028845**
	[0.014147]	[0.012486]	[0.014324]	[0.012545]	[0.014067]	[0.012110]	[0.013394]	[0.012532]	[0.012150]	[0.012244]	[0.012561]	[0.012342]	[0.012176]	[0.011904]	[0.012265]	[0.011973]	[0.011959]
Change in ST interest rate*DEP_WK	-0.002522***	-0.000927	-0.002536***	-0.001099	-0.002250**	-0.001025	-0.001802*	-0.000972	-0.001103	-0.001112	-0.000974	-0.000865	-0.001160	-0.000977	-0.001179	-0.001007	-0.001245
	[0.000922]	[0.000993]	[0.000941]	[0.000978]	[0.000952]	[0.001006]	[0.001026]	[0.000994]	[0.001019]	[0.001015]	[0.001015]	[0.000994]	[0.001041]	[0.001022]	[0.001035]	[0.001016]	[0.001037]
Change in ST interest rate*DEP_INV	-0.079630	-0.055381	-0.079888	-0.054419	-0.074009	-0.061244	-0.057698	-0.055589	-0.061288	-0.044983	-0.055558	-0.056350	-0.060667	-0.061723	-0.044175	-0.045735	-0.043165
	[0.088287]	[0.072688]	[0.088377]	[0.072773]	[0.086916]	[0.070240]	[0.072555]	[0.072913]	[0.070661]	[0.063670]	[0.072842]	[0.070917]	[0.070369]	[0.068245]	[0.063265]	[0.061342]	[0.060270]
Log of (US$) tot. assts, 2007		0.060176***						0.065453***	-0.021173	0.085526***	0.063536	0.082564***	-0.044194	0.028423	0.058479	0.099732***	-0.048896
		[0.016127]						[0.016286]	[0.098100]	[0.029093]	[0.074558]	[0.020480]	[0.128365]	[0.098339]	[0.083507]	[0.031265]	[0.147868]
Leverage, 2007			-0.009238					-0.118845***	-0.135629***	-0.119491***	-0.118820***	-0.126983***	-0.133786***	-0.136863***	-0.117215***	-0.127134***	-0.129536***
			[0.109615]					[0.038222]	[0.035888]	[0.038348]	[0.037551]	[0.036042]	[0.035344]	[0.035911]	[0.037919]	[0.036167]	[0.036158]
Log of (US$) Stock of cash and ST inv, 2007				0.058010***							0.001702		0.021082		0.026138		0.090050
				[0.015786]							[0.072058]		[0.073951]		[0.075423]		[0.087683]
Cash total assets ratio, 2007					1.210606							-1.639972		-1.731502		-1.947375	-2.363902*
					[0.920002]							[1.143974]		[1.217570]		[1.240598]	[1.395904]
Log (US$) total debt, 2007						0.078101***			0.109640				0.111711	0.071376			0.065252
						[0.019200]			[0.115415]				[0.115808]	[0.114008]			[0.119662]
Short term debt ratio, 2007							0.808254***			-0.230180					-0.215914	-0.144672	-0.026215
							[0.247303]			[0.421554]					[0.424523]	[0.419593]	[0.436727]
Observations	3,734	3,734	3,731	3,723	3,725	3,467	3,410	3,731	3,466	3,409	3,722	3,724	3,462	3,464	3,406	3,407	3,406
R-squared	0.012	0.017	0.012	0.017	0.012	0.020	0.017	0.017	0.021	0.021	0.017	0.018	0.021	0.021	0.021	0.022	0.022
Adj R-squared	0.011	0.016	0.011	0.016	0.011	0.019	0.016	0.016	0.019	0.019	0.016	0.017	0.019	0.019	0.019	0.020	0.020
F test	6.475	10.060	4.845	9.868	5.846	11.180	10.390	9.716	9.244	9.372	8.143	9.129	7.943	8.871	8.019	9.240	7.163
Prob > F	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 8. Results for Emerging Economies for Sales

	ΔSales																	
	Baseline	Control variables one by one						Without cash			Using Cash						All Variables
								No Debt	Log Tot Debt	ST Debt	Log Cash	Cash Ratio	Log Tot Debt		ST Debt		
													Log Cash	Cash Ratio	Log Cash	Cash Ratio	
VARIABLES	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)
Fiscal Stimulus *Business Cycle Sensitivity	-0.055911*	-0.017077	-0.054833*	-0.021343	-0.044042	-0.013885	-0.034077	-0.017095	-0.014712	-0.018225	-0.017369	-0.016755	-0.015119	-0.014317	-0.018395	-0.017822	-0.018831
	[0.029150]	[0.027570]	[0.029001]	[0.027221]	[0.028861]	[0.029717]	[0.031067]	[0.027569]	[0.029794]	[0.029518]	[0.027482]	[0.027362]	[0.029647]	[0.029674]	[0.029409]	[0.029445]	[0.029180]
Change in ST interest rate*DEP_WK	0.001463	0.005221**	0.001601	0.004474*	0.002423	0.004356	0.002719	0.005199**	0.004169	0.004311	0.006079**	0.005323**	0.005127*	0.004298	0.005361*	0.004454*	0.005142*
	[0.002496]	[0.002623]	[0.002497]	[0.002585]	[0.002519]	[0.002668]	[0.002706]	[0.002623]	[0.002734]	[0.002695]	[0.002662]	[0.002609]	[0.002800]	[0.002716]	[0.002741]	[0.002682]	[0.002763]
Change in ST interest rate*DEP_INV	0.048128	0.100064	0.050161	0.097613	0.068126	0.127760	0.115475	0.100796	0.127765	0.139792*	0.086520	0.098318	0.112876	0.125696	0.124269	0.137121*	0.126093
	[0.119376]	[0.083173]	[0.118400]	[0.086249]	[0.111145]	[0.079154]	[0.095421]	[0.083250]	[0.080104]	[0.080037]	[0.080952]	[0.080531]	[0.076788]	[0.077421]	[0.076108]	[0.076801]	[0.079305]
Log of (US$) tot. assts, 2007		0.145500***						0.145667***	-0.124832	0.178858**	0.508237***	0.158461***	0.283676	-0.088439	0.587758***	0.190004**	0.376871
		[0.047066]						[0.047188]	[0.190601]	[0.082972]	[0.188487]	[0.052925]	[0.307205]	[0.205368]	[0.198830]	[0.089776]	[0.316273]
Leverage, 2007			0.087951					-0.004820	-0.023361	0.018907	-0.029265	-0.004745	-0.043975	-0.019964	-0.009879	0.020592	-0.041867
			[0.073474]					[0.061414]	[0.062067]	[0.163008]	[0.062411]	[0.060856]	[0.061462]	[0.061412]	[0.165262]	[0.159661]	[0.180709]
Log of (US$) Stock of cash and ST inv, 2007				0.127226***							-0.359974*		-0.369013*		-0.396549**		-0.428471*
				[0.047322]							[0.190512]		[0.196974]		[0.192157]		[0.235146]
Cash total assets ratio, 2007					4.552337*							-1.180981		-0.986763		-1.654871	1.899971
					[2.628326]							[2.855250]		[3.552861]		[3.361029]	[4.204816]
Log (US$) total debt, 2007						0.172321***			0.314885				0.271138	0.285273			0.255114
						[0.056370]			[0.227628]				[0.230780]	[0.235848]			[0.242000]
Short term debt ratio, 2007							1.663044**			-0.683289					-0.867218	-0.564692	-0.756747
							[0.714489]			[1.197280]					[1.186887]	[1.158598]	[1.151555]
Observations	3,830	3,830	3,827	3,817	3,819	3,537	3,482	3,827	3,536	3,481	3,816	3,818	3,531	3,532	3,476	3,477	3,476
R-squared	0.002	0.008	0.002	0.007	0.004	0.008	0.006	0.008	0.008	0.008	0.009	0.008	0.010	0.009	0.010	0.008	0.010
Adj R-squared	0.001	0.007	0.001	0.006	0.003	0.007	0.004	0.007	0.007	0.006	0.008	0.007	0.008	0.007	0.008	0.006	0.008
F test	1.604	3.657	1.428	2.958	2.041	3.522	2.500	2.929	2.353	2.311	3.314	2.457	2.946	2.056	2.879	2.043	2.278
Prob > F	0.187	0.006	0.223	0.019	0.087	0.007	0.041	0.013	0.029	0.032	0.003	0.023	0.005	0.046	0.006	0.048	0.016

Table 9. Results for Emerging Economies for Capital Expenditure

	ΔCapex																
	Baseline	Control variables one by one						Without cash			Using Cash						All Variables
								No Debt	Log Tot Debt	ST Debt	Log Cash	Cash Ratio	Log Tot Debt		ST Debt		
													Log Cash	Cash Ratio	Log Cash	Cash Ratio	
VARIABLES	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)
Fiscal Stimulus *Business Cycle Sensitivity	0.006151*	0.002944	0.002651	0.002703	0.004281	0.003891	0.006750*	0.002509	0.003547	0.002335	0.002424	0.002589	0.003487	0.003572	0.002297	0.002404	0.002391
	[0.003711]	[0.003543]	[0.003391]	[0.003502]	[0.003611]	[0.003837]	[0.003956]	[0.003452]	[0.003748]	[0.003633]	[0.003412]	[0.003456]	[0.003680]	[0.003743]	[0.003587]	[0.003624]	[0.003608]
Change in ST interest rate*DEP_WK	0.001160***	0.000838**	0.000801**	0.000871***	0.001020***	0.000814**	0.001061***	0.000787**	0.000761**	0.000627*	0.000871**	0.000839**	0.000857**	0.000796**	0.000701*	0.000667*	0.000685*
	[0.000333]	[0.000343]	[0.000327]	[0.000334]	[0.000338]	[0.000357]	[0.000362]	[0.000341]	[0.000360]	[0.000350]	[0.000354]	[0.000342]	[0.000374]	[0.000361]	[0.000363]	[0.000350]	[0.000367]
Change in ST interest rate*DEP_INV	0.036321	0.032170	0.032255	0.032013	0.033861	0.026117	0.032538	0.032046	0.026310	0.026689	0.031669	0.032282	0.025500	0.026538	0.026172	0.026823	0.026565
	[0.024013]	[0.021152]	[0.020733]	[0.020771]	[0.023123]	[0.020785]	[0.024250]	[0.020502]	[0.020081]	[0.018549]	[0.020091]	[0.021047]	[0.019597]	[0.020490]	[0.018187]	[0.019133]	[0.018960]
Log of (US$) tot. assts, 2007		-0.012267*						-0.001153	-0.001123	-0.033603**	0.028930	0.006497	0.043993	0.012454	-0.001737	-0.027564*	-0.023450
		[0.006629]						[0.008041]	[0.033314]	[0.013793]	[0.032259]	[0.010801]	[0.050498]	[0.037999]	[0.037792]	[0.015204]	[0.056338]
Leverage, 2007			-0.275254***					-0.262904***	-0.278439***	-0.265981***	-0.265345***	-0.288105***	-0.276305***	-0.282956***	-0.267601***	-0.289354***	-0.296285***
			[0.080868]					[0.092621]	[0.094100]	[0.088889]	[0.092858]	[0.093614]	[0.093696]	[0.094138]	[0.088531]	[0.088603]	[0.088926]
Log of (US$) Stock of cash and ST inv, 2007				-0.012524**							-0.029620		-0.041109		-0.031092		-0.014506
				[0.006361]							[0.030324]		[0.033269]		[0.033469]		[0.035322]
Cash total assets ratio, 2007					-0.702748**							-0.589317		-0.444525		-0.726477	-0.599531
					[0.344010]							[0.478628]		[0.578506]		[0.562394]	[0.622175]
Log (US$) total debt, 2007						-0.013038			0.002836				-0.002154	-0.007744			0.011219
						[0.008083]			[0.039561]				[0.039921]	[0.041467]			[0.043392]
Short term debt ratio, 2007							0.020042			0.607995***					0.592213***	0.645345***	0.641051***
							[0.099630]			[0.189542]					[0.190007]	[0.188921]	[0.193115]
Observations	3,560	3,560	3,557	3,549	3,550	3,275	3,228	3,557	3,274	3,227	3,548	3,549	3,270	3,271	3,223	3,224	3,223
R-squared	0.005	0.006	0.008	0.007	0.006	0.006	0.004	0.008	0.007	0.010	0.008	0.008	0.008	0.007	0.010	0.011	0.011
Adj R-squared	0.004	0.005	0.007	0.005	0.005	0.005	0.003	0.006	0.005	0.008	0.006	0.006	0.005	0.005	0.008	0.009	0.008
F test	5.407	4.541	6.313	4.700	5.076	3.849	3.439	5.807	4.465	6.184	5.079	5.710	4.129	4.225	5.630	6.415	5.151
Prob > F	0.001	0.001	0.000	0.001	0.000	0.004	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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