Domestic Factors and Episodes of Gross Capital Inflows

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TEP Working Paper No. 1916

December 2016

Trinity Economics Papers

Department of Economics

Trinity College Dublin

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Abstract

This paper extends the literature on gross capital flows by looking into domestic factors that covary significantly with cross-country differences in the transitional likelihoods of moving between episodes of capital inflows. Applying a state-transition framework, we view states of gross capital inflows as “normal”, “surge”, and “stop”, following Forbes and Warnock (2012a and 2012b) approach in identifying extreme episodes for a sample of 55 advanced and emerging economies from 1980Q1 to 2014Q4. The empirical findings show that cross-country differences in transitional likelihoods are strongly associated with state-dependence variables such as duration and occurrence. There is evidence to suggest the presence of negative duration dependence on the transitional likelihood of moving between episodes such that the longer an economy spends in a given episode, the less likely it will exit that episode. However, duration and occurrence of episodes of gross capital inflows are also significantly correlated with domestic factors such as output volatility, de facto and de jure financial openness, and foreign reserves.

Keywords: *capital flows, surges, stops, capital flows transitions*

JEL codes: F30, F32, F36

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The author is highly indebted to Philip R. Lane for his valuable comments and suggestions. The author is also grateful to Agustin Benetrix, Vahagn Galstyan, Hiro Ito, and Frank Warnock for their comments and suggestions on this paper.

1. Introduction

The onset of financial liberalization that started in the 1980s has sparked waves of cross-border capital flows, bringing in costs and benefits to both advanced and emerging economies. Among the benefits are risk-sharing, efficient allocation of financial resources, and adherence to best practices. But financial globalization also comes at a price. As cross-border financial flows increased, countries have become more vulnerable to extreme episodes of financial flows due to domestic, global and contagion factors. In fact, both the global financial crisis of 2008-09 and emerging market crises in the early 1980s and mid-1990s illustrate how economies can transition from receiving huge foreign capital to a sudden and severe reversal of foreign capital inflows. However, the experiences of countries are varied. Given adverse changes in global factors, some countries experience more reversals of foreign capital flows alongside deep recessions while others do not. Conversely, given positive developments in global factors, some countries receive more foreign capital “bonanzas” or “surges” while others do not. It is then important to look into cross-country differences in their likelihood of transitioning between episodes of capital inflows.

Capital flows have been studied at various dimensions, including their impact on growth, relevant drivers, policy tools in addressing their adverse effects, and the nature of capital flows.¹ On more specific area of research, several papers draw attention to the determinants and effects of extreme episodes of capital flows.² For instance, literature on “sudden stops” shows that when global factors deteriorate, economies face painful adjustments, exchange rate depreciation, bankruptcies, and economic contractions. At the other extreme, literature on “surges” indicates that capital inflows are related to asset price inflation, currency appreciation, commodity price booms, and higher probability of experiencing “stops” especially in emerging economies.

However, these studies do not discuss differences in the likelihood of countries in transitioning from one episode to another. We note two reasons on the importance of this research. First, recent papers highlight the strong correlation between global factors, such as global risk aversion, with the occurrence of extreme episodes of capital flows.³ In contrast, some papers argue that although global factors drive capital flows, whether a country actually experiences an extreme episode ultimately depends on its domestic factors.⁴ This paper supports the latter view by bringing back domestic factors at the centre but from a different angle. Instead of focusing on what factors determine the occurrence of extreme episodes, we look into which factors relate to cross-country covariation in transitional likelihoods of moving between episodes of gross capital inflows. Specifically, we look at the covariation between transitional likelihoods and state-dependence variables; and the covariation between state-dependence variables and domestic factors. This topic has not been fully explored in the literature.

Second, knowing which domestic factors relate to cross-country differences in transitional likelihoods imply a country’s vulnerability or fragility in experiencing extreme episodes. For instance, one stylized fact presented in this paper shows that advanced economies tend to have, on average, higher transitional likelihood of moving from “normal” to an extreme episode. Knowing which factors covary with cross-country differences in transitional likelihoods suggest cross-country propensity in experiencing extreme episodes.

¹ See Koepke (2015) for a survey of literature on capital flows; Ostry et al. (2010) on capital controls; Kaminsky et al. (2005) and Bluebird (2013) on nature of capital flows including size, composition, cyclicity and volatility.

² Throughout this paper, we follow the naming convention of Forbes and Warnock (2012a and 2012b) in calling “stops”, “surges”, “flights” and “retrenchments” as “extreme” episodes of gross capital flows. However, we only focus on “stops” and “surges” which relates to gross capital inflows.

³ See Forbes and Warnock (2012a), Fratzscher (2012), and Milesi-Ferretti and Tille (2011).

⁴ This conjecture was first emphasized by Calvo et al. (2006) for systemic sudden stops, and later on by Ghosh et al. (2014) on surges.

This paper sets out three tasks. First, it identifies extreme episodes, namely “stops” and “surges”, following the approach of Forbes and Warnock (2012a and 2012b) using quarterly data on gross capital inflows for 55 advanced and emerging economies from 1980Q1 to 2014Q4. Second, it computes fixed transitional likelihood and provides stylized facts on cross-country variation.⁵ Third, it considers state-dependence variables (duration and occurrence) in the context of capital flow episodes. Lastly, it looks at the correlations between transitional likelihoods of moving between episodes, state-dependence variables and domestic factors. Four questions are considered. First, are there differences in transitional likelihoods across countries such that do some countries have higher or lower transitional likelihood than others? Second, what factors significantly covary with the transitional likelihoods of moving between episodes? Third, which domestic factors covary with state-dependence variables? Lastly, do we see any difference between debt and equity inflows?

In order to address the key questions in this paper, we step back from the literature on capital flows and look into state-transition framework used in labour economics and business cycle literature.⁶ In labour economics, we find employment transition models where individuals move between different states of employment like from employment to unemployment. In the business cycle literature, economies move between contractions and expansions. We can then view “normal”, “surge”, and “stop” episodes of gross capital inflows as different states and derive their fixed transitional likelihood of moving from one state to another. Next, we see from the labour economics literature the relevance of individual characteristics for the transitional probabilities of moving between employment states. We consider the same for episodes of capital flows where individual characteristics now pertain to domestic factors. Similar to transition studies of employment, we consider the role of state-dependence variables (duration and occurrence) in the transition process. Intuitively, we are abstracting from global factors which are common across countries, and assess which factors significantly covary with transitional likelihood.

Our computed transitional likelihoods reveal that the likelihood of moving from normal episode to either extreme episode is low, but the likelihood of staying in an extreme episode is relatively high. In addition, we also note cross-country differences in transitional likelihood such that some countries have higher transitional likelihood while others have lower. To know which domestic factors are relevant for transitional likelihood, we first regress transitional likelihood on state-dependence variables to know how strongly these variables covary. Next, we estimate state-dependence variables on domestic factors to establish the extent of how strong domestic factors covary with state dependence variables, which in turn correlate with transitional likelihood.

The results reveal a strong link between the transitional likelihoods and the state-dependence variables (duration and occurrence). We find evidence of negative duration dependence such that a country that experiences an episode longer will most likely remain in that episode and less likely move to another episode. We also find evidence that state-dependence variables are significantly correlated with domestic factors such as output volatility, de facto and de jure financial openness, and foreign reserves for episodes of total gross inflows. We note that domestic factors can operate either through one or both state-dependence variables. For instance, higher foreign reserves are strongly correlated with longer duration of normal episodes of total gross inflows; but significantly correlated with more frequent occurrence of debt and equity stop episodes. In contrast, for equity inflows, financial openness is significant for both duration and occurrence. These findings indicate

⁵ We use “likelihood” instead of “probability” as we do not specify a specific probability function.

⁶ See Ballen and Freeman (1986), Blau (1998), Bradley et al. (2003), Heckman and Borjas (1980), Lynch (1989), Martinez-Granado (2002), on labour transitions literature; and Diebold and Rudebusch (1990), Filardo (1994), and Filardo and Gordon (1998) on business cycle transitions.

strong cross-country covariation between transitional likelihoods and state-dependence variables. In turn, state-dependence variables significantly covary with domestic factors.⁷

This study makes several contributions to the literature on capital flows. First, using state-transition framework, we are able to know and draw cross-country stylized facts on the likelihood of transitioning from various episodes of gross capital inflows. Second, by focusing on fixed transitional likelihood, we are able to abstract from factors common across countries and then assess which domestic factors correlate with the propensity of experiencing various capital flow episodes. Third, unlike in the labour literature, this paper looks at the factors that covary with state-dependence variables.

This paper is structured as follows. Section 2 provides conceptual framework on capital flows and the application of state-transition framework for episodes of gross capital inflows. Section 3 provides the empirical specification. Section 4 discusses data source and stylized facts. Section 5 discusses empirical analysis and sensitivity tests; while Section 6 concludes.

2. Conceptual Framework

2.1 Capital Flows “Push” and “Pull” Framework

A key area of research on capital flows pertains to its determinants. In this area, the overarching theme is what factors matter most for capital flows. These factors are broadly categorized as “push” factors which are external to an economy, such as global or contagion factors, and domestic “pull” factors that pertain to domestic macroeconomic fundamentals. The prevailing consensus in the literature points to the relevance of both factors. For instance, Calvo et al. (1993 and 1996) and Fernandez-Arias (1996) find global factors, such as interest rates related to business cycles in advanced economies, matter more than domestic factors. In contrast, Chohan et al. (1998) argue more for domestic factors like domestic returns. But most studies found the relevance of both factors not only for the size but also for the volatilities of total and components of capital flows.⁸

A narrower branch of literature on capital flows looks at the “push” and “pull” factors in the context of unusually large foreign capital inflows or outflows, known as either “surges” or “stops” which are broadly grouped as extreme episodes. Understanding the determinants and consequences of these extreme episodes in the context of global and domestic factors has become important in the literature as they have significant policy implications. For example, if global factors are more relevant during episodes of large foreign capital outflows than domestic factors, then it implies that policy makers have little influence over such huge foreign outflows. The same goes for large foreign capital inflows. But if domestic factors are more pertinent, then domestic policy makers have more control over the adverse consequences of stops and surges.

On the causes and effects of extreme episodes, the early literature on “stops” is motivated by the crises experience of emerging economies in the 1990s, including Mexico in 1994, Asian economies in 1997-98, and Russia in 1998, as these economies experienced sharp withdrawal of foreign capital inflows. Calvo (1998), Calvo et al. (2006), and Calvo et al. (2008) argue that “stops” occur through balance-sheet effects, where any deterioration in global factors triggers large real exchange rate depreciation which increases the burden of debt payment of countries with large foreign currency denominated debt liabilities. These authors argue that “sudden stops” have detrimental

⁷ However, given our small sample size, we find few domestic factors significant and, in most cases, they are marginally significant. Nonetheless, the results hold under several sensitivity tests.

⁸ See Koepeke (2015) for a comprehensive review on the literature of capital flows under the push and pull framework.

consequences as firms face insolvencies and bankruptcies, caused by disruptions of credit that lowers capital productivity leading to output loss.

In contrast, studies on “surges” or “bonanzas” came earlier than those on “stops”. This was motivated by the increase in capital flows to emerging Latin America economies in the early 1990s, following domestic policy reforms and the implementation of debt relief programs. Calvo et al. (1993 and 1996) trace the factors driving “surges” as well as their impact on the domestic economy. They find that huge foreign capital inflows, when triggered by global factors such as low global interest rates, increase private consumption and domestic investment which, in turn, raise the price of non-tradable goods, leading to real exchange rate appreciation. Their study highlights the impact of “surges” on the rapid growth of monetary base through sterilization and reserve accumulation.

In later literature, Caballero (2014), Magud et al. (2014), and Reinhart and Reinhart (2009) look at the relation between “surges” and domestic credit expansions. They argue that high foreign capital inflows improve financial conditions and increase domestic bank credit. However, as domestic credit expands through foreign lending, the probability of banking crises rises because of greater risk-taking which exacerbates problems of asymmetric information and moral hazard. Sula (2010) investigates the direct link between “surges” and “stops”. He finds that “surges” increases the probability of experiencing “stops” especially if foreign inflows are channelled to private loans.

On the empirical tests of drivers of extreme episodes, existing studies looked into global, domestic, and contagion factors. The findings indicate that the high occurrence of “stops” relates to lower domestic growth, more financially open economies, large dollarization of domestic liabilities, dependence on commodity exports, low global growth, high global risk aversion, foreign-driven, huge banking inflows, large exchange rate depreciation, and contagion effects. In contrast, economies more open to trade are less vulnerable to “stops” as foreign investors associate trade openness with lower probability of debt default, while those with more stable economies also experience less “stops”.⁹

For “surges”, low global interest rates that make debt payment and access to international funding easier, low global risk aversion, and business cycle expansions in advanced economies are the relevant global factors. Policy reforms, trade and financial openness, sound macroeconomic policy, growth shocks, external financing needs, and exchange rate regime are the significant domestic factors. In addition, contagion factor is also significant.¹⁰

Most of these studies use pooled dataset with several countries and periods in testing the relevance of global, domestic, and contagion factors in the occurrence of extreme episodes.¹¹ The key question addressed by this approach is what factors lead to the occurrence of extreme episodes across economies through time. Most of these studies use pooled probit regression where the dependent variable is a binary variable taking the value of 1 if the period corresponds to an extreme episode. This method has several advantages and implications for the results. First, such method offers substantial data points for consistent and robust estimation. Second, it allows factors to vary across time. This has important implications for the results as both domestic and global factors do change over time, more so when they are cyclical in nature, such as global growth, global risk aversion, and

⁹ Refer to the studies of Calderon and Kubota (2013), Calvo et al. (2008), Cavallo and Frankel (2008), Forbes and Warnock (2012a), Levchenko and Mauro (2007), Milesi-Ferretti and Tille (2011), and Rothenberg and Warnock (2011).

¹⁰ See the papers of Caballero (2014), Calvo et al. (1993 and 1996), Forbes and Warnock (2012a and 2012b), Ghosh et al. (2014), Magud et al. (2014), and Reinhart and Reinhart (2009).

¹¹ See Calderon and Kubota (2013), Calvo et al. (2008), Cavallo and Frankel (2008), Forbes and Warnock (2012a and 2012b), Ghosh et al. (2014), and Sula (2010).

domestic shocks.¹² Under this approach, one could directly establish that an increase in global risk aversion, for example, is significantly correlated with a higher occurrence of “stops” as shown by Forbes and Warnock (2012a and 2012b) and Milesi-Ferretti and Tille (2011).

Few studies have used time-series approach in looking at the evolution or pattern of key macroeconomic variables around periods of extreme episodes. The relevant question under this set-up is how domestic factors behave around extreme episodes. An example would be Reinhart and Reinhart (2009), where they study the behaviour of current account, real GDP growth, inflation, and real exchange rate before, during, and after “surges”. They find a distinct V-shaped pattern for current account as it deteriorates into the “surge” year and then improves steadily after. Domestic growth rises into the “surge” but then slows and settles back into the pre-surge growth rate. Similarly, Broner et al. (2013) looks into the pattern of capital inflows and their components around crises periods and find that capital inflows tend to be higher in the pre-crisis period and then collapse during and after crises.

The literature has not yet dealt with cross-country variation in experiencing extreme episodes. Considering cross-sectional set-up allows us to identify factors that are important in explaining cross-country differences or factors that are relevant in explaining cross-country heterogeneity in the occurrence of capital inflow episodes. It is this type of query that this paper addresses.

2.2 State-Transition Framework

The lack of empirical studies dealing with sources of cross-country differences in transitional likelihood of moving between episodes of capital flows can be addressed by looking into different fields of economics such as labour economics and business cycle theory. Both fields have applied a Markovian state-transition framework in their respective fields. The labour economics literature uses state-transition framework in analysing individual transitions between various employment states. The business cycle literature also applies the Markovian framework in assessing transitions between economic expansions and contractions.

The labour economics literature offers considerable insights into transitions between employment states.¹³ Several key themes are noted. First, transitions between states depend on observed individual characteristics such as the level of education, age, ethnicity, among others.¹⁴ Second, the empirical approaches in estimating the determinants of transitions between states are broadly classified into two. One pertains to the use of fixed transitional probabilities as the dependent variable such as those employed by Ballen and Freeman (1986), while others use a pooled probit approach including Blau (1998), Bradley et al. (2003), Lynch (1989) and Martinez-Granado (2002). Under the latter approach, overall labour market conditions are included in the regression specification; but not in the former. The key distinction is that the former looks at the sources of variation of individual’s transitional probabilities, while the latter focuses on factors that relate to an individual’s transitions from one state to another. Third, to account for past employment history, state-dependence variables are considered in the empirical specification. Of importance is the presence of positive or negative duration dependence.

Accounting for state-dependence variables has been crucial in the application of the Markovian state transition framework in labour economics. A critique of the state-transition framework is how to

¹² Some studies consider structural domestic factors in their pooled dataset. For instance, Forbes and Warnock (2012a and 2012b) included per capita income and financial system; while Ghosh et al. (2014) considered exchange rate regime, capital account openness, and quality of institutions. These are, in fact, structural in nature as they change slowly over time.

¹³ Refer to the studies of Ballen and Freeman (1986), Blau (1998), Bradley et al. (2003), Lynch (1989) and Martinez-Granado (2002).

¹⁴ Unobserved individual attributes correlated with the transitions are controlled for in their empirical approach. For instance, Heckman and Borjas (1980) use differences in duration or length between two employment and unemployment spells.

account for past experiences. Heckman and Borjas (1980) develop theoretical foundations to account for state-dependence in the labour economics. They differentiate different types of state-dependence, including: (i) occurrence dependence which suggests that as the number of previous unemployment spells increases, the probability that a worker will become or remain unemployed increases since employers use employment records in their hiring and firing decisions; (ii) duration dependence proposes that the probability of remaining unemployed depends on the length of time the worker has been unemployed in his current unemployment spell; and (iii) lagged duration dependence which suggests that the probabilities of remaining unemployed or becoming unemployed depends on the length of previous unemployment spells due to loss of productivity-enhancing work experience.

Among the abovementioned state-dependence variables, duration dependence matters most for transitions between employment states. Positive duration dependence implies that the longer one spends in a given state, the more likely one will exit that state; while negative duration dependence suggests that the longer one spends in a given state, the less likely one will exit that state. The test for negative duration dependence is then crucial since if one is unemployed, the more likely one will remain unemployed. In contrast, if positive duration dependence exists, then an unemployment spell will most likely be followed by an employment spell. Blau (1998) and Lynch (1989) confirmed the significance of negative duration dependence in the labour market transitions.

Following Heckman and Borjas (1980), we show the relation between transitional likelihoods and state-dependence variables. Transitional probabilities stem from hazard functions in state-transition literature. Hazard functions are defined as the conditional density of exit time from a given state based on time spent in the state in the current spell. For a Weibull exponential time distribution, Heckman and Borjas (1980) proposed a general model which combines duration, occurrence, and lagged duration dependence for a hazard function, given by

$$h_{xy}^{(l)}(t_{xy}^{(l)}) = g_{xy}^{(l)}(t_{xy}^{(l)}, \dots, t_{xy}^{(1)}, t_{yx}^{(1)}, \dots, t_{yx}^{(l)}), \quad (1)$$

where t is time, x and y are two different states, and l are spells. If $\partial h_{xy}(t_{xy})/\partial t_{xy} > 0$, then we have positive duration dependence. This means that if one spends more time in a given state, the more likely one will exit that state. If $\partial h_{xy}(t_{xy})/\partial t_{xy} < 0$, then we have negative duration dependence, which implies that the longer one stays in a given state, the less likely it will exit that state. If $\partial h_{xy}(t_{xy})/\partial t_{xy} = 0$, then there is no duration dependence. For occurrence dependence, if the function $g(\cdot)$ is stationary across spells (l) then there is no occurrence dependence.

The state transitional framework has also been applied in the business cycle literature, particularly for the transitions between expansions and recessions. Several contrasting themes are noted in the application of transitional framework in this literature. First, the use of time-varying transitional probabilities is more appropriate to account for time-varying factors critical in identifying turning points along the business cycle. Therefore, time-varying transitional probabilities have more predictive power in business cycle forecasts. This view has been emphasized by Filardo (1994) and Filardo and Gordon (1998). In contrast to the labour economics literature, individual characteristics tend to change slowly and, therefore, fixed transitional probabilities have been used such as those from Ballen and Freeman (1986). Second, unlike in the labour economics literature, there remains considerable debate as to whether positive or negative duration dependence exists. Filardo and Gordon (1998) argue that contractions have positive duration dependence, while expansions do not. In contrast, Hamilton (1989) offers evidence of negative duration dependence such that the longer an economy experiences an expansion, the less likely it will experience a contraction. But Diebold

and Rudebusch (1990) provide evidence that positive duration dependence exists in a complete cycle, while negative duration dependence exists in a half cycle.

In summary, both labour economics and business cycle literature have applied state-transition frameworks. Two approaches have been used. The first pertains to explaining the sources of variation in individual's transitional probabilities of moving between states, while the second deals with the factors related to the transitions between states.

2.3 Application of State-Transition Framework on Capital Flows

We first identify at each point in time whether a country is in a “normal”, “surge” or “stop” episode of gross capital flows. Based on individual country series, we derive the individual transitional likelihood of moving from one episode to another. We then seek to understand which factors covary with the cross-country differences in transitional likelihoods. For illustration, Norway has a transitional likelihood of moving from “normal” to “stop” episode of gross capital inflows of around 6.8 percent, while Australia has about 1.2 percent. Pinning down the factors that explain this cross-country variation is the primary goal of this paper.

In this regard, we also consider the role of state-dependence variables. However, we make several distinctions between labour economics state-dependence variables and those that are used in this paper. First, the assessment of state-dependence entails a pooled probit set-up that considers common factors across individuals like labour market conditions. It addresses questions like which factors increase or decrease the probability of moving between employment states. In contrast, this paper looks at the factors explaining the transitional likelihood themselves. Specifically, it focuses on factors that explain cross-sectional variation of transitional likelihood of moving between states.

Second, Heckman and Borjas (1980) differentiate between current and lagged duration dependence since they allow for time variation. In this paper, we consider duration as the total number of periods in a given state. We do not differentiate between current and lagged duration as we are interested in the cross-sectional covariation.¹⁵ For duration, we mean the total length of time a country spends in a given state. For occurrence, we mean the total number of times a country experiences a specific episode. These depart from Heckman and Borjas (1980).

In applying state-transition framework on episodes of capital flows, we consider two important aspects. First, we highlight the link between transitional likelihood and state dependence, consistent with Ballen and Freeman (1986) and Heckman and Borjas (1980). Specifically, higher transitional likelihood tends to be correlated with shorter episodes but more frequent occurrence. In contrast, lower transitional likelihood are associated with longer episodes but less frequent occurrence.

Second, crucial to the application of this conceptual framework is the focus on domestic factors. In the labour economics literature of employment transitions, overall economic conditions such as economic growth or unemployment rate do matter when one considers the transition from one state to another (Blau 1998, Bradley et al. 2003, and Martinez-Granado 2002). Their inclusion is motivated by the fact that they act as controls. But when we look at the transitional probabilities themselves in a cross-sectional set-up, common factors, say unemployment rate, are experienced by all individuals and so they do not change across sample (Ballen and Freeman, 1986). A similar line of reasoning can be applied to the transitional likelihood of episodes of capital flows. Global factors

¹⁵ In the labour economics literature with current and lagged duration dependence, common factors are included since there is time variation. However, in applying duration dependence in a cross-sectional set-up, adding the total number of quarters or periods where an economy experiences a particular episode removes common factors.

such as global growth, global liquidity, global interest rates, and global risk factor are common across countries and, therefore, are excluded in the empirical analysis. We show this by

$$CF_{i,t} = \alpha_i + X_t\gamma + Y_{i,t}\beta + \varepsilon_{i,t} \quad (2)$$

where $CF_{i,t}$ captures capital inflows to country i at time t ; X_t is a vector of global factors at time t ; $Y_{i,t}$ is a vector of domestic factors for country i at time t ; α_i is a constant; and $\varepsilon_{i,t}$ is the error term. Suppose, we take the mean of Equation (2) through time (t),

$$\overline{CF_i} = \alpha_i + \overline{X}\gamma + \overline{Y_i}\beta + \overline{\varepsilon_i} \quad (3)$$

Since $\overline{X}\gamma$ is a constant which does not vary across country (i), we denote

$$\alpha_i^* = \alpha_i + \overline{X}\gamma \quad (4)$$

So, we have:

$$\overline{CF_i} = \alpha_i^* + \overline{Y_i}\beta + \overline{\varepsilon_i} \quad (5)$$

Based on Equations (3) and (4), the average of global factors does not vary across countries in the sample. Hence, global factors are dropped from our empirical specification. Equation (5) tells us that average of capital flows for country i is related to its domestic factors; and some country-specific constant α_i^* as shown in Equation (4). Similarly, other fixed-time statistics such as transitional likelihood will only depend on domestic factors.

The focus on domestic factors in explaining cross-country variation in transitional likelihoods or state-dependence factors can be best discussed using an example. Consider five economies in a surge episode from 1Q2007 to 3Q2008 and only four economies transitioned to a stop episode when global risk aversion rose in 4Q2008. Cross-country differences in transitional likelihoods would have then been explained by domestic factors in this case as global risk is common to all. Specifically, what is with the fifth economy that caused it to remain in a surge episode given that global risk is high. For that economy to remain in a surge episode must be caused by its own idiosyncratic factor.

Figure 2.1 illustrates our conceptual framework on the relevance of domestic factors to state-dependence variables and transitional likelihoods. Our findings show strong covariation between transitional likelihoods and state-dependence variables. However, both duration and occurrence also covary with domestic factors. We then illustrate that a domestic factor, such as less capital account restrictions, is significantly correlated with more frequent stops. More frequent stops are significantly correlated with lower likelihood of remaining in a stop episode but higher likelihood of transitioning to another episode. In contrast, higher foreign reserves are significantly associated with longer normal episodes, which also relate to lower likelihood of transitioning to an extreme episode. This demonstrates that domestic factors can operate through either “duration” or “occurrence” which, in turn, covary with transitional likelihood of moving between episodes.

3. Empirical Specification

To answer the second to fourth questions set out in this paper, we estimate two regression specifications. First, we estimate conditional correlations of transitional likelihoods on state-dependence variables in order to assess the importance of past experience, in terms of length and frequency, of being in an episode on the likelihood of transitioning between types of episode. We follow the specification

$$P_{i,x,y} = \alpha_0 + \beta_1 D_{i,x} + \beta_2 D_{i,y} + \beta_3 O_{i,x} + \beta_4 O_{i,y} + \varepsilon_i \quad (6)$$

Second, given the strong correlation between transitional likelihood and state-dependence variables, we test which domestic factors are significantly correlated with state-dependence variables following the specification

$$Z_i = \alpha_0 + \beta_1 VOL_i + \beta_2 GDPPC_i + \beta_3 CRED_i + \beta_4 MKCAP_i + \beta_5 TRADE_i + \beta_6 FINOPEN_i + \beta_7 KAOPEN_i + \beta_8 NFA_i + \beta_9 FXR_i + \varepsilon_i \quad (7)$$

where $P_{i,x,y}$ refers to the transitional likelihood from episode x to episode y of country i ; Z_i refers to state-dependence variables such as $D_{i,x}$, $D_{i,y}$, $O_{i,x}$, and $O_{i,y}$; $D_{i,x}$ is the duration for episode x of country i ; $D_{i,y}$ is the duration for episode y of country i ; $O_{i,x}$ is the occurrence for episode x of country i ; $O_{i,y}$ is the occurrence for episode y of country i . VOL_i is output volatility; $GDPPC_i$ is per capita income; $CRED_i$ is domestic credit; $MKCAP_i$ refers to stock market capitalization; $TRADE_i$ is trade openness; $FINOPEN_i$ is de facto financial openness; $KAOPEN_i$ is de jure capital account openness; NFA_i is net foreign assets; FXR_i is foreign exchange reserves; and ε_i is the error term. To address whether the pattern holds for different types of capital flows, we estimate equation (7) separately for total, debt, and equity inflows. Equations (6) and (7) are estimated using ordinary least squares with robust standard errors.¹⁶

Given our empirical specifications and variable choices, we note several caveats. First, domestic variables pertain to structural characteristics of a country. This is consistent with the use of fixed transitional likelihoods. As pointed out by Koepke (2015), most domestic variables in the literature on capital flows can be broadly classified as either cyclical or structural. Domestic factors included in Equation (7) pertain to structural variables as they change slowly through time.

Second, the empirical specifications are limited to conditional correlations and do not establish causation. We do not make any attempt to establish causation as we are simply interested in looking at covariation between transitional likelihoods and state-dependence variables; and between state-dependence variables and domestic factors. Although we do not claim causality, the analysis remains relevant as we are able to say which domestic factors are correlated with longer and more frequent episodes, which covaries with transitional likelihood of moving between episodes. We can, thereby, infer a country's vulnerability in experiencing extreme episodes.

Third, we do not rule out that domestic factors can also be correlated with transitional probabilities. In fact, when we ran a separate regression of transitional likelihoods on domestic and state-dependence variables and transitional likelihoods on domestic variables, some domestic factors

¹⁶ We cannot run a seemingly unrelated regression as our dependent variable for both transitional likelihoods and state-dependence variables sum to 100 percent, in which case the results indicate near singular matrix.

appear statistically significant.¹⁷ But the significance of state-dependence variables holds and the residual sum of squares for the regression of transitional likelihoods on domestic factors is very large while the R-square is lower. We take these as evidence of a stronger covariation between transitional likelihood and state-dependence variables. Hence, we estimate equation (6).

Fourth, Equation (6) does not necessary imply mechanical results. Since we are also interested to know whether there is evidence of positive or negative duration dependence, the signs of the coefficients will be indicative. For occurrence, the sign of the estimated coefficients are also indicative on whether the more frequent one experiences an episode that more or less likely one will exit that episode. But there is no a priori reason to assume the relation of both state-dependence variables for it is possible that a country could have experienced long duration of a given episode but could have experienced that episode spell more or less frequently.¹⁸ Given these two reasons, the regression results in Equation (6) may not necessarily be mechanical.

Fifth, Equation (7) allows us to assess under which state-dependence variables domestic factors relate to transitional likelihood. It would be possible that some factors may correlate more with either or both state-dependence variables.

Lastly, Equations (6) and (7) are estimated using ordinary least squares against alternative methods for the following reasons. Regime switching models would consider time-varying component and would not particularly address cross-country variations. Simultaneous equations would take both state-dependence and domestic factors into account in explaining cross-country variation in transitional likelihoods at the same time. Given that the relation between state dependence and domestic factors are also important, it is better to do a step-by-step analysis wherein transitional likelihood is regressed on state dependence variables as in Equation (6); and then state-dependence variables on domestic factors as in Equation (7). Non-linear models would require choosing the right specification whether it be log, double log or log-linear form. For simplicity and clarity of estimation approach, ordinary least squares estimation is used.

4. Data and Stylized Facts

In order to address the questions in this paper, three important data considerations are made. First, we define the three episodes of gross capital inflows. Second, we compute fixed transitional likelihoods for each country in the sample. Third, we derive duration and occurrence.

4.1 Episodes of Gross Capital Inflows

On the definition and measurement of extreme episodes, various authors have used different data sources and identification strategy. On data, Calvo et al. (1993) and Reinhart and Reinhart (2009) developed proxy data on net capital inflows to capture sudden stops and surges, respectively, using current account and foreign reserves data as these variables are available for longer period and more countries. However, more recent papers, including those from Caballero (2014), Calderon and Kubota (2013), Faucette et al. (2005), Forbes and Warnock (2012a and 2012b), and Rothenberg and Warnock (2011), use Financial Accounts data of the Balance of Payments Statistics in defining extreme episodes of gross capital inflows. In summary, data on extreme episodes found in the literature varies between the use of proxy and actual Financial Accounts data, as well as the use of

¹⁷ Results are presented in Tables 2.A1 and 2.A2 in Appendix 2.1.

¹⁸ Given that transitional likelihoods and state-dependence variables stem from hazard (exit) functions as shown in Equation (1), we estimate the correlations of transitional likelihoods on both duration and occurrence in Equation (6). But given that there could be an implied negative correlation between duration and occurrence, we also regressed transitional likelihoods on each of the two state-dependence variables (duration and occurrence) separately in Tables 2.A3 and 2.A4 in Appendix 2.1. We note that the estimated results are in line with the baseline results presented in Table 2.4.

gross or net capital inflows. The consequence of using proxy versus actual flow data, and gross versus net flows have profound implications on the results since the number and dating of the identified episodes depend on these choices.¹⁹ In this paper, we use gross capital inflows to focus on foreign-driven capital flows and assume domestic and foreign investors could behave differently.

Various methods are used to identify extreme episodes in the literature. The most popular approach in identifying “stops”, albeit with varying degrees of modifications, is the use of deviations from some benchmark value. Calderon and Kubota (2013), Calvo et al. (2008), Cavallo and Frankel (2008), Forbes and Warnock (2012a and 2012b), and Rothenberg and Warnock (2011) used one or two standard deviations from the historic sample mean in identifying and dating “stops”. For “surges”, the most common method is the use of top percentile of the sample inflow.²⁰ Reinhart and Reinhart (2009) define “surges” as the top 20th percentile, while Ghosh et al. (2014) used top 30th percentile.

On the identification of episodes of gross capital flows in this paper, we follow Forbes and Warnock’s (2012a) approach in identifying extreme episodes.²¹ We follow the definition of Forbes and Warnock (2012a and 2012b) because they impose stricter conditions of what extreme episodes are. In fact, these criteria entail more disruptive impact of extreme episodes. We use Financial Accounts data from the Balance of Payments Statistics of the International Monetary Fund and national sources (for countries with unavailable IMF data) for the period 1970Q1 to 2014Q4 for 55 advanced and emerging economies. Total capital inflows refer to the sum of debt and equity inflows. Debt inflows include portfolio debt and other investment inflows, while equity inflows include foreign direct investment and portfolio equity inflows.

To restate, Forbes and Warnock (2012a and 2012b) define a “surge” as an episode where gross capital inflows increase more than one standard deviation above its historic mean provided that: (i) it reaches at least two standard deviation above at some point within that episode; (ii) the entire episode lasts more than one quarter; and (iii) there are at least four years of data to calculate the historic mean.²² Specifically, we let C_t be the four-quarter moving sum of gross capital inflows ($GINFLOW$) and derive annual year-on-year changes in C_t :

$$C_t = GINFLOW_t + GINFLOW_{t-1} + GINFLOW_{t-2} + GINFLOW_{t-3}, \quad (8)$$

$$\Delta C_t = C_t - C_{t-4}, \quad (9)$$

Rolling average and standard deviations of ΔC_t are computed over the last 20 quarters.²³ A “surge” episode is defined to start at the first month t when ΔC_t increases more than one standard deviation above the rolling mean. But in order for an entire episode to qualify as “surge” there must be at least one quarter t when ΔC_t increases up to two standard deviations above its historic mean. A “stop” episode is defined using the same approach but pertains to opposite direction. We define “normal” episodes as the absence of an extreme episode for a given quarter.

Several distinctions are noted from the identified episodes in comparison to Forbes and Warnock (2012a and 2012b).²⁴ First, for total gross flows, there are marked differences in the identified episodes accounting for the fact that Forbes and Warnock (2012a) used net error and omissions to

¹⁹ As illustrated by Faucette et al. (2005) and Rothenberg and Warnock (2011), using actual gross flows significantly reduce the number of Calvo’s “sudden stops” compared to using current account and reserve accumulation data as proxy for net capital inflows.

²⁰ See Crystallin et al. (2015) for a survey and assessment of the methodologies used in defining “surges”.

²¹ See Appendix 2 for a discussion of capital flow data and Table A5 for country classifications.

²² The value for current quarter is excluded in computing the historic mean and standard deviation.

²³ To maximize available data, a four-year rolling mean and standard deviation are used at the start of the series (Forbes and Warnock, 2012a and 2012b).

²⁴ Table A6 in Appendix 3 presents the identified “surge” and “stop” episodes for total, debt, and equity inflows.

fill in missing data. In this paper, no such attempt to clean the data was made so as to rely primarily on the classified financial transactions in the Balance of Payments Financial Accounts. Second, unlike Forbes and Warnock (2012b), we defined extreme episodes for debt and equity inflows following the abovementioned criteria, and not whether they are debt-led or equity-led episodes. Forbes and Warnock (2012b) tested which factors hold when extreme episodes are driven by debt and equity inflows. In contrast, this paper tests the relevance of domestic factors on transitional likelihood when there are “surges” and “stops” in gross debt and equity inflows. Following Forbes and Warnock (2012b) might not add so much to our analysis as most factors are correlated with debt-led episodes. Third, the starting and ending quarters of identified episodes can be different from Forbes and Warnock (2012a) as we reclassified extreme episodes separated by one quarter of normal episode to the succeeding extreme episode. For instance, some countries in 2008Q3 have normal episode between a surge episode in 2008Q2 and stop episode in 2008Q4. We reclassify the normal episode identified in 2008Q3 as a stop episode to account for the fact that the global and domestic conditions prevailing during that quarter actually correspond to conditions in the stop episode.

To illustrate the method of identifying extreme episodes, Figure 2 extends Forbes and Warnock’s (2012a) data for Brazil.²⁵ Notice that the pattern shows striking resemblance to Figure 2 in Forbes and Warnock (2012a). Figure 3 shows the frequency of countries experiencing extreme episodes for total, debt, and equity inflows. We note several observations. First, similar to Forbes and Warnock (2012a), there is unprecedented number of countries who experienced “surges” before the global financial crisis of 2007-08 and also unprecedented number of countries who had “stops” during the crisis. Second, for surges, there tend to more countries experiencing equity surges than debt surges. This pattern is not observed in Forbes and Warnock (2012b) as they analysed debt- and equity-led episodes separately. Third, we observe periods when more countries experience extreme episodes compared to other periods. For example, there are spikes in the number of countries experiencing “stops” in the early 1980s, early 1990s, 1997-1998, early 2000s, and 2007-2009. These periods coincide with crises periods or economic downturns. Although there are differences between this paper and Forbes and Warnock’s (2012a and 2012b) identified episodes, the general patterns observed in this paper are consistent with Forbes and Warnock (2012a).

4.2 Transitional Likelihood Data and Stylized Facts

To compute for transitional likelihoods, we use a one-step transitional likelihood specification, where we denote EP_t (episode) as taking the value of 0 for normal episode, 1 for surge episode, and -1 for stop episode. The transitional likelihood then takes the form

$$P_{x,y,t} = P\{EP_t = x \mid EP_{t-1} = y\}, \quad (10)$$

where x is the origin episode and y is the destination episode. We apply the above specification on our computed episode series for total, debt, and equity inflows. For illustration, the likelihood of moving from “normal” to “surge” episode is calculated as the ratio of the number of times a country transitions from “normal” to “surge” divided by the total number of transitions coming from a “normal” episode. Transitional likelihoods for “surges” and “stops” are computed in the similar way.

One important point we highlight in this approach is that we compute a single transitional likelihood for the entire sample period or what is known as “fixed transitional probability”, such that each country only has one transitional likelihood of moving between an episode type to another for the

²⁵ We note that the underlying series is stationary given that we have taken changes of the rolling average.

entire sample period.²⁶ We use this approach as we want to assess which factors covary with transitional likelihoods and state dependence variables. Using such approach, a cross-section set-up would be reasonable as it focuses on which factors correlate with transitional likelihoods and state-dependence variables. Knowing that global factors are common to all countries, it would then highlight the relevance of domestic factors. We can then interpret the transitional likelihood as an indicator of a country's vulnerability of experiencing an extreme episode.

Another consideration pertains to the use of actual episode data in accounting for transitional likelihoods. Since we do not assume specific probability function, the computed transitional likelihoods could be interpreted based on the realized past transitions of economies across episodes. This approach warrants the interpretation of transitional likelihood as an indicator of propensity or vulnerability of transitioning to various episodes.

We note several observations in our computed transitional likelihoods.²⁷ First, the transitional likelihood of moving from a normal episode to an extreme episode is very low. For instance, the likelihood of transitioning from "normal" to "surge" episode for the United States is about 7 percent, while that from "normal" to "stop" is only 2 percent. Second, the likelihood of staying in an extreme episode is relatively high such that the likelihood of staying in "surge" is 73 percent and in a "stop" 81 percent for the United States. Third, the probability of exiting an extreme episode is lower than that for staying in an extreme episode. That is the likelihood of exiting a "surge" episode and moving into "normal" episode is only 14 percent for the United States but the likelihood of staying in a "surge" episode is around 73 percent. Fourth, the sudden swing from one extreme episode to another also occurs. For instance, in the United States, the likelihood of transitioning from a surge to a stop episode is around 14 percent. Fifth, these patterns hold true for both debt and equity inflows. These observations imply that the likelihood of entering an extreme episode is small, but, if it happens, the likelihood of staying in that extreme episode is high. This is a new finding obtained from applying state-transition framework on episodes of gross capital inflows.

Table 1 provides summary statistics on transitional likelihoods for advanced and emerging country groups for total, debt, and equity inflows. We note several facts. First, there are cross-country differences in the transitional likelihoods of moving between episodes. The standard deviation ranges from 2 to 7 percent and holds true for total, debt, and equity inflows. It is usually larger for transitions originating from extreme episodes like "surge" to "normal" or from "stop" to "normal". Second, the variation across emerging countries is mostly larger than those for advanced countries for all types of flows and transitions. Third, using a neutral measure of dispersion, the coefficient of variation suggests that cross-country differences in the transitional likelihoods are largest for movements between extreme episodes. For instance, there is higher variation in the likelihood of moving from "surge" to "stop" and from "stop" to "surge" than for other transitions. These observations illustrate cross-country differences in the transitional likelihoods and these differences also vary across movements between episodes.

4.3 State-Dependence Variables and Stylized Facts

Given that the transition depends only on the previous state, we take into account state-dependence variables, namely "duration" and "occurrence". We define "duration" as the ratio between the total quarters a country spends in an episode to total quarters in the sample scaled to 100

²⁶ Another approach would be to take time-varying transitional probability following Filardo (1994). However, this might not be an appropriate method for this study as we are more concerned with explaining cross-country differences in transitional likelihoods and not the actual transition from one episode to another.

²⁷ Tables A7 to A9 in Appendix 4 show the transitional likelihoods for each country in our sample for total, debt, and equity gross inflows, respectively.

$$D_i = \frac{n(EP_t = x)}{T}, \quad (11)$$

where i is country, x is episode (EP) type, n refers to number or count, t is period or quarter, and T is the total number of quarters or periods in the sample.²⁸ We define “occurrence” as the ratio between the number of times a country experiences an episode to the total number of episodes a country has regardless of type. The number of times a country experiences an episode type is given by an index function

$$S_i = 1_{\{E_1=x\}} + \sum_{t=2}^T 1_{\{E_t=x, E_{t-1} \neq x\}}, \quad (12)$$

where S_i is the episode type count. Thus, occurrence is given by

$$O_i = \frac{S_i}{S}, \quad (13)$$

where i is country and S is the total number of episodes a country has regardless of episode type. Values are scaled to 100. Table 2 provides summary statistics on the computed state-dependence variables.²⁹ Here, we find that, on average, each country spends around 71 percent of its time in a “normal” episode, around 15 percent in “surge” episode, and 14 percent in “stop” episode. Across country groupings, emerging economies spend relatively longer time in “normal” episodes than advanced economies, while advanced economies spend relatively longer time in “stop” episodes than emerging economies. In addition, we find that variation is mostly greater for emerging economies than for advanced economies. Table 2 also reveals that “normal” episodes occur more frequently, while “stops” and “surges” occur at relatively the same frequency. Noticeably, this pattern appears consistent across country groups. However, cross-country difference in occurrence appears larger for advanced economies than for emerging economies. These observations highlight that “normal” episodes last longer and are more frequent than extreme episodes, and there are marked differences across countries.

Figure 4 illustrates the relation between “duration” and “occurrence” and transitional likelihood for total capital inflows. The top panel of Figure 4 shows that the longer one spends in an episode, the more likely one will stay, the more likely one will transition to that episode, and the less likely one will exit from the episode. These demonstrate the presence of negative duration dependence. The bottom panel of Figure 4 shows the more frequent one experiences an episode, the less likely one will remain in that episode and more likely it will transition to another episode but it is also more likely to move to that episode from another episode. Taken together, Figure 4 illustrates the relation between the state-dependence variables and transitional likelihoods.

4.4 Domestic Factors and Stylized Facts

For domestic factors included in Equations (6) and (7), output volatility refers to the standard deviation of real GDP growth, taken from the World Economic Outlook Dataset April 2015. Following Calderon and Kubota (2013), we expect countries with more stable macroeconomic conditions to have a lower likelihood of transitioning to a stop episode. Per capita income is in natural logarithm

²⁸ We use the total number of periods or quarters in an episode instead of averages in line with understanding of cross-country variations. Forbes and Warnock (2012a) find that, on the average, countries spend four quarters in an episode. If one considers the average duration, there will be fewer variation in a cross-country set-up as most would have 4 quarters as average.

²⁹ Tables A10 to A12 in Appendix 4 present the computed duration and occurrence for each country in the sample for total, debt, and equity gross inflows, respectively.

of per capita income at constant US\$2010 prices taken from World Development Indicators (WDI) of World Bank. Similar to Cavallo et al. (2008), per capita income controls for the level of development of a country. Domestic credit pertains to the loans to private sector as percentage of GDP taken from WDI. We expect domestic credit to be correlated with both “surges” and “stops” as pointed out by Caballero (2014), Cavallo et al. (2008), Magud et al. (2014), and Sula (2010). Stock market capitalization of listed companies relative to GDP is sourced from WDI and national sources accessed through CEIC Database. It accounts for the level of financial development of a country. As pointed out by Cavallo et al. (2008), countries with higher trade openness tend to be less vulnerable to “stops” as perceived default probability is lower. Data on trade openness refer to merchandise exports plus imports relative to GDP taken from WDI.

Caballero (2014), Calderon and Kubota (2013), Calvo et al. (1996 and 2008), Ghosh et al. (2014), and Magud et al. (2014) pointed out the importance of financial integration in exacerbating the occurrence of “surges” and “stops”. We use two measures. First is a *de facto* financial openness measure using the sum of total foreign assets and total foreign liabilities as percentage of GDP sourced from External Wealth of Nations or EWN Mark II (Lane and Milesi-Ferretti 2007). Second is a *de jure* measure of capital account openness using Chinn-Ito standardized index (2006) scaled by 100.³⁰ Park and Mercado (2014) highlight the divergence of both measures. We also include net foreign asset position to characterize whether a country is a net creditor or net debtor. As pointed out by Lane and Milesi-Ferretti (2002), the net foreign asset position of a country reflects the level of public debt and the demographic structure of a country. Following Calvo et al. (1993 and 1996), we also include foreign reserves as part of country characteristics. Both net foreign asset position and foreign reserves as ratios to GDP are taken from External Wealth of Nations Database.

The regressors in Equation (7) are annual averages from 1980 to 2014.³¹ Table 3 presents summary statistics of the average values of the regressors. We note that advanced economies, on average, have higher per capita income, domestic credit, market capitalization, and *de facto* and *de jure* financial openness. Emerging economies, on the other hand, have higher macroeconomic volatility, trade openness, and foreign reserves.

5. Empirical Analysis

5.1 Baseline Results

Table 4 presents the results on the conditional correlations between the transitional likelihoods and state-dependence variables, following Equation (6). The results show state-dependence variables, “duration” and “occurrence”, are strongly related with transitional likelihood of moving between episodes. The model fit is relatively good.³² Table 4 reveals several important findings. First, economies that stay longer in a normal episode have significantly higher likelihood of being in a normal episode and lower likelihood of moving to another episode. Specifically, a one percent increase in the duration of being in a normal episode is highly correlated with a higher likelihood of remaining in a normal episode by 0.28 percent, while significantly associated with lower likelihood of

³⁰ Since the latest Chinn-Ito index is available until end-2013, we use 2013 values for our 2014 sample. Data for Taiwan is proxied by data for Korea as the level of *de facto* financial integration between these two countries are the closest among the countries in the region.

³¹ Table A13 in Appendix 5 shows data definition and sources for the domestic factors. In cases wherein a country’s data start on a later year, we follow the starting date of episodes in taking the average values of the regressors.

³² We also estimate transitional likelihood on both state-dependence and domestic factors (Table A1 in Appendix 1). The results indicate that aside from state-dependence variables, domestic factors such as output volatility, market capitalization, financial openness, and foreign reserves are also significantly correlated with transitional likelihoods. We also tested the conditional correlation between transitional likelihoods and domestic factors excluding state-dependence variables (Table A2 in Appendix 1), the results show lower R-squared and higher residual sum of squares. We take these as evidence that transitional likelihood covary strongly with state-dependence variables than with domestic factors.

moving to a surge episode by 0.16 percent and moving to a stop episode by 0.11 percent. Taken together, these findings offer support to the presence of negative duration dependence.

Second, countries that experience an episode more frequently tend to have significantly lower likelihood of staying in that episode but a higher likelihood of transitioning to and from another episode. For instance, higher frequency of experiencing normal episodes is significantly associated with lower likelihood of remaining in a normal episode by around 0.30 percent but significantly higher likelihood of moving from normal to surge episode by 0.16 percent, normal to stop episode by 0.23 percent, surge to normal episode by around 1 percent, and stop to normal episode by 0.50 percent. Consequently, duration appears significant for transitions from the origin episode, while occurrence is significant for both origin and destination episodes. These results hold true for debt and equity inflows. These also validate that the estimates do not capture mechanical results as we find that duration of destination episodes to be insignificant. For instance, duration of surge is insignificant for the transitional likelihood of moving from normal to surge. If the results are mechanical, then duration of surge should also be significant. Also, we find that the more frequently one experiences an episode, the less likely one remains in that episode, which is contrary to the mechanics in the labour economics literature wherein the more frequently one experiences an episode the more likely one remains in that episode (Heckman and Borjas, 1980).

To assess the importance of domestic factors on transitional likelihoods and to know which state-dependence variables domestic factors influence, we test the conditional correlation between state-dependence variables and domestic factors, following Equation (7). Tables 5, 6, and 7 present the results of the conditional correlations of state-dependence variables on domestic factors for total, debt, and equity inflows, respectively.

For total gross inflows in Table 5, the estimates show that countries with higher output volatility tend to have less frequent normal episodes by around 0.82 percent. This result is robust in our sensitivity tests. This could mean higher output volatility is linked to the occurrence of surge and stop episodes. However, since our volatility measure does not capture whether output growth is either positive or negative, we do not find its significance on the occurrence of either surge or stop episodes in Columns (5) and (6). The results also indicate that countries that are more financially open usually have significantly shorter stop episodes, while those that have less capital restrictions tend to have more frequent stop episodes. Both measures imply that economies that are more financially open usually experience shorter but more frequent stops. These results are robust in our sensitivity tests, and clearly highlight that both financial openness measures operate via two different state-dependence variables. Finally, our estimates for gross inflows indicate that economies with larger foreign reserves usually have longer normal episodes. The result is robust and indicates that foreign reserves significantly covary with the duration of normal episodes.

For debt inflows in Table 6, countries with higher domestic credit usually have significantly longer debt surges. This result is robust in our sensitivity tests and in line with the literature on domestic credit and surges (Caballero, 2014 and Magud et al., 2014). Economies with more developed financial system tend to experience less frequent normal debt episodes but more frequent surge debt episodes. Unlike the results for total gross inflows in Table 5, those with higher foreign reserves tend to have experienced less frequent debt surges but more frequent debt stops. This result is in line with the experience of emerging countries in the 1990s where sudden stops of capital inflows preceded greater reserve accumulation as the latter became the first line of defence against excessive currency depreciations. It also suggests that, unlike for gross capital inflows, foreign reserves significantly covary with the occurrence of extreme debt episodes.

For equity inflows in Table 7, economies with higher per capita income tend to have significantly less frequent equity surges. However, this finding is not robust in our sensitivity tests. The results also show that countries that are more open to trade experience significantly less equity stops. This finding holds in our sensitivity tests and concurs with the results of Cavallo et al. (2008) who argue that countries with higher trade openness tend to be less vulnerable to stops as the perceived default probability is lower. The results also indicate that more financially open economies usually experience longer equity surges but more frequent equity stops, while economies with less capital restrictions tend to have significantly longer episodes of normal equity flows but shorter equity surges. Lastly, countries with higher foreign reserves tend to have more frequent equity stops consistent with the results for debt inflows and in line with emerging economies' experience in the 1990s. The findings on the significance of foreign reserves clearly indicate that it is highly relevant for the duration of total gross inflows but matters more for the occurrence of debt and equity episodes.

These results show which domestic factors significantly covary with the length and frequency of experiencing various episodes of capital inflows. Furthermore, these results demonstrate that domestic factors can covary either with duration or occurrence or with both state-dependence variables. But we see differences in the relevance of domestic factors for different types of capital flows. Given these differences, it is clear that domestic factors are related to state-dependence variables. In turn, as shown in Table 4, state-dependence variables are significantly correlated with transitional likelihoods of moving between episode types. In fact, one of key findings is that under cross-sectional framework, there is evidence of negative duration dependence similar to the employment transition literature.

We make several important points from the baseline findings. First, the results rest on small number of observations. Given that there are 55 economies in the sample, the significance of each domestic variable is sensitive to which countries are included. Nonetheless, the country composition used in the estimation is indicative of the overall significant covariation between transitional likelihood and state-dependence variables as well as state-dependence variables and domestic factors.

Second, very few domestic factors appear significant particularly for state-dependence variables. In fact, among the domestic factors considered, *de facto* and *de jure* financial openness measures and foreign reserves are those that consistently appear significant. Two possible explanations are provided. First, cross-country variations in state-dependence variable can be small. As indicated in Table 2, the standard deviation for state-dependence variables ranges from 3 to 7 percent. This could explain why very few domestic factors appear significant. The relatively small cross-country variation could be attributed to the fact that the results are capturing country idiosyncratic (domestic) factors. Given that we abstract from global factors, which are common to all countries, differences in duration, occurrence, and transitional likelihoods are explained by individual country factors. In effect, abstracting from global factors, we have accounted for the cross-border synchronization of capital inflows, and so what is left to explain cross-country variations are domestic factors that enable a country to hold up against synchronized movements in capital inflows. Another explanation could be that there are, indeed, few domestic factors relevant for explaining state-dependence variables. Since this paper is the first paper to study capital flow transitions from a cross-country setting, the results offer initial findings for future researches.

5.2 Sensitivity Tests

We conduct several sensitivity tests to validate the baseline results. First, since our sample includes country outliers, we exclude those that have huge cross-border asset holdings relative to the size of the economy such as Ireland and Singapore that have very large *de facto* financial openness

indicator. This reduces the sample size from 55 to 53 economies. Second, since the net foreign asset position is highly linked to foreign debt liabilities, we replace our measure of net foreign asset position with foreign debt liabilities to GDP ratio in Equation (7).³³ Third, given too many domestic factors are included in equation (7), we focus on per capita income as a measure of economic development, market capitalization to capture the level of financial development, de facto financial openness, and foreign reserves. Lastly, since some of the domestic factors are correlated, we test the individual significance of each domestic factor with the two state dependence variables using bivariate regressions. The results from our sensitivity tests are presented in Tables 8, 11, 14, and 17 for total capital inflow episodes; Tables 9, 12, 15, and 18 for debt episodes, and Tables 10, 13, 16 and 19 for equity episodes.

For total capital inflow episodes in Tables 8, 11, 14 and 17, we find the significance of output volatility, de facto and de jure financial openness, and foreign reserves hold. But there are differences from the baseline results. Excluding Ireland and Singapore, both de facto and de jure measures are no longer significant for total capital inflow episodes. This result is not surprising as both countries are highly open relative to the size of their economies. For all sensitivity tests on total gross inflow episodes, foreign reserves appear significant for the duration of surge episodes, which is not the case in the baseline results. Specifically, countries that have larger foreign reserves tend to experience significantly shorter surges. This implies that foreign reserves have inverse relation with extreme episodes as the sign for duration of stop episodes is also negative but insignificant. For the bivariate regression in Table 17, financial openness is insignificant and there are other domestic factors such as net foreign assets which are now significant. However, results from the bivariate regression must be treated with caution as they overestimate the significance of the explanatory variable.³⁴ Although there are differences from the baseline results, we do find evidence that output volatility, de facto and de jure financial openness, and foreign reserves significantly covary with the duration and occurrence of total capital inflow episodes.

In relation to debt inflow episodes in Tables 9, 12, 15, and 18, we find that the significance of domestic credit, market capitalization and foreign reserves hold. Again, there are differences from the main results. Removing the two outliers, trade and financial openness become significant. For example, countries that trade more usually experience significantly less debt stops, while those that are more financially open tend to experience longer normal episodes of debt flows, less frequent debt surges, but more frequent debt stops. Foreign reserves consistently appear significant with the same sign in Tables 9 and 12 for debt inflows, suggesting that foreign reserves are highly linked with the occurrence and not with the duration of debt episodes. We also note that some domestic factors have turned significant. Per capita income is now significant for the duration of debt stops in Table 15, suggesting that more developed economies tend to have longer debt stops. For the bivariate regressions in Table 18, foreign reserves are insignificant. Although there are differences from the baseline results, we do find evidence that domestic credit, level of financial development and foreign reserves significantly covary with the duration and occurrence of debt inflow episodes.

For episodes of equity inflows in Tables 10, 13, 16, and 19, we find that the significance of trade and de jure financial openness and foreign reserves hold. De facto financial openness, which is significant in the baseline results, is no longer significant in Tables 13 and 16. The significance and sign of de jure financial openness are consistent with the baseline results. The sensitivity tests indicate that economies with less capital restrictions tend to have longer normal episodes of equity inflows and shorter equity surges. This implies that de jure financial openness is highly relevant for equity episodes and is linked to duration and not occurrence. Consistent in Tables 10, 13 and 16 is the

³³ Data on foreign debt liabilities are also taken from External Wealth of Nations (Lane and Milesi-Ferretti, 2007). Catão and Milesi-Ferretti (2014) find that foreign debt liabilities are a good predictor of external crisis.

³⁴ This is true for both debt and equity inflow pairwise regressions between duration and occurrence and each of the domestic factors. This explains why some of the domestic factors in Tables 17, 18, and 19 have become marginally significant.

significance of trade openness on frequency of stops and the relevance of foreign reserves on the occurrence of equity episodes. This clearly supports the baseline results as it demonstrates that both trade openness and foreign reserves are relevant for the occurrence of equity episodes. Again some domestic factors have become significant in the sensitivity test for equity flows. For example, market capitalization is significant for the occurrence of equity surges in Table 10, while per capita income is significant for the duration of equity surges and occurrence of equity stops in Table 16. For Table 19, de jure financial integration measure appears most robust, and per capita income is now strongly significant. Although there are differences from the baseline results, we do find support that trade openness, de jure financial openness and foreign reserves significantly covary with the duration and occurrence of equity inflow episodes.

6. Concluding Remarks

This paper contributes to the literature on extreme episodes of gross capital flows by analysing the factors that significantly covary with cross-country transitional likelihoods of moving between episodes of gross capital inflows. Under a cross-sectional framework, we abstract from global factors in explaining cross-country variation in transitional likelihoods and state-dependence variables. Employing state-transitional framework for the episodes of gross capital inflows, we find that the likelihood of transitioning to an extreme episode is relatively small but the likelihood of remaining in an extreme episodes is relatively high.

We find that transitional likelihoods strongly covary with the duration and occurrence of episode types. The correlations indicate that the longer one experiences an episode type, the less likely an economy will exit from that episode. Hence, under a cross-sectional set-up, there is evidence of negative duration dependence. This paper also shows that state-dependence variables significantly covary with domestic factors, and that the covariance can either be in one or in both duration and occurrence. The correlation between state-dependence and domestic factors, as demonstrated in this paper, has not been fully explored in the current literature.

Figure 1: Conceptual Framework

Note: State dependence factors include "duration" and "occurrence".

Figure 2: Capital Inflows to Brazil

Notes: Values are in US\$ million. Change in gross capital inflows refer to the year-on-year difference of four quarter cumulative gross inflows. Data taken from Balance of Payments Statistics, International Monetary Fund.

Figure 3: Frequency of Extreme Episodes

Notes: Values refer to the number of countries experiencing an episode type for a given quarter. Episodes of gross capital inflows are derived following the method of Forbes and Warnock (2012a).

Figure 4: Transitional Likelihood and State-Dependence Variables

Notes: Values in the y-axis refer to the transitional likelihood of moving between episodes. Duration in the x-axis refers to the percentage of total number of periods or quarters in a given episode type divided by total periods for each country. Occurrence in the x-axis pertains to the percentage of total number of an episode type divided by the total number of episodes regardless of type.

Table 1: Summary Statistics of Transitional Likelihood

Transitions	Obs	Mean	Std. Dev.	CoV	Obs	Mean	Std. Dev.	CoV	Obs	Mean	Std. Dev.	CoV
	Full Sample				Advanced				Emerging			
Total Gross Inflows												
Normal to Normal	55	93.02	2.43	0.03	20	91.88	2.48	0.03	35	93.68	2.17	0.02
Normal to Surge	55	4.02	1.97	0.49	20	4.79	2.16	0.45	35	3.58	1.74	0.49
Normal to Stop	55	2.96	1.54	0.52	20	3.34	1.32	0.39	35	2.74	1.64	0.60
Surge to Normal	55	16.19	7.40	0.46	20	17.97	6.01	0.33	35	15.18	8.00	0.53
Surge to Surge	55	78.49	5.86	0.07	20	76.54	4.90	0.06	35	79.61	6.13	0.08
Surge to Stop	55	5.31	5.53	1.04	20	5.49	5.12	0.93	35	5.21	5.82	1.12
Stop to Normal	55	19.12	5.49	0.29	20	18.53	5.04	0.27	35	19.46	5.78	0.30
Stop to Surge	55	2.65	4.43	1.67	20	2.23	3.57	1.60	35	2.89	4.89	1.69
Stop to Stop	55	78.22	5.69	0.07	20	79.24	3.35	0.04	35	77.64	6.65	0.09
Debt Inflows												
Normal to Normal	55	93.23	2.09	0.02	20	92.50	2.21	0.02	35	93.64	1.93	0.02
Normal to Surge	55	3.62	1.65	0.46	20	3.94	1.34	0.34	35	3.44	1.80	0.52
Normal to Stop	55	3.15	1.47	0.47	20	3.56	1.47	0.41	35	2.92	1.44	0.49
Surge to Normal	55	18.39	7.73	0.42	20	19.05	6.14	0.32	35	18.01	8.56	0.48
Surge to Surge	55	76.27	5.57	0.07	20	76.32	5.28	0.07	35	76.25	5.80	0.08
Surge to Stop	55	5.34	5.86	1.10	20	4.63	4.65	1.01	35	5.74	6.48	1.13
Stop to Normal	55	19.82	6.49	0.33	20	18.91	3.77	0.20	35	20.35	7.63	0.38
Stop to Surge	55	3.02	3.70	1.22	20	2.88	3.59	1.25	35	3.10	3.81	1.23
Stop to Stop	55	77.15	6.01	0.08	20	78.21	4.55	0.06	35	76.55	6.68	0.09
Equity Inflows												
Normal to Normal	55	92.48	2.87	0.03	20	93.15	1.76	0.02	35	92.10	3.30	0.04
Normal to Surge	55	4.63	2.37	0.51	20	3.72	1.02	0.27	35	5.15	2.75	0.53
Normal to Stop	55	2.89	1.59	0.55	20	3.13	1.64	0.52	35	2.75	1.57	0.57
Surge to Normal	54	14.78	5.88	0.40	20	15.31	5.11	0.33	34	14.47	6.35	0.44
Surge to Surge	54	80.34	5.61	0.07	20	80.29	4.94	0.06	34	80.37	6.04	0.08
Surge to Stop	54	4.88	5.23	1.07	20	4.40	5.60	1.27	34	5.16	5.06	0.98
Stop to Normal	55	19.49	5.56	0.29	20	20.70	5.23	0.25	35	18.80	5.70	0.30
Stop to Surge	55	2.73	4.34	1.59	20	2.94	3.47	1.18	35	2.61	4.81	1.84
Stop to Stop	55	77.78	5.58	0.07	20	76.35	5.53	0.07	35	78.59	5.53	0.07

Notes: Values are based on Tables A7 to A9 in Appendix 4. Countries are classified into advanced and emerging countries based on average per capita real GDP at US\$2005, where the cut-off is US\$15,000. The list of countries for each group is shown in Table A5 in Appendix 2. Std. Dev. = standard deviation. CoV = coefficient of variation.

Table 2: Summary Statistics of State-Dependence Variables

State Variables	Obs	Mean	Std. Dev.	CoV	Obs	Mean	Std. Dev.	CoV	Obs	Mean	Std. Dev.	CoV
	Full Sample				Advanced				Emerging			
Total Gross Inflows												
Duration Normal	55	70.983	6.768	0.10	20	69.289	6.013	0.09	35	71.952	7.063	0.10
Duration Surge	55	15.300	5.928	0.39	20	15.486	5.982	0.39	35	15.194	5.982	0.39
Duration Stop	55	13.717	3.842	0.28	20	15.225	3.434	0.23	35	12.854	3.841	0.30
Occurrence Normal	55	44.711	4.233	0.09	20	46.219	4.818	0.10	35	43.850	3.660	0.08
Occurrence Surge	55	24.708	6.795	0.28	20	26.657	7.225	0.27	35	23.594	6.376	0.27
Occurrence Stop	55	23.506	5.887	0.25	20	23.807	5.287	0.22	35	23.334	6.272	0.27
Debt Inflows												
Duration Normal	55	72.961	6.103	0.08	20	71.289	5.443	0.08	35	73.916	6.326	0.09
Duration Surge	55	13.471	4.947	0.37	20	14.153	4.689	0.33	35	13.081	5.115	0.39
Duration Stop	55	13.568	4.105	0.30	20	14.558	2.896	0.20	35	13.003	4.601	0.35
Occurrence Normal	55	44.682	4.961	0.11	20	46.324	4.665	0.10	35	43.743	4.943	0.11
Occurrence Surge	55	24.214	5.998	0.25	20	25.371	5.370	0.21	35	23.554	6.308	0.27
Occurrence Stop	55	24.281	7.032	0.29	20	24.785	5.250	0.21	35	23.993	7.931	0.33
Equity Inflows												
Duration Normal	55	69.835	7.142	0.10	20	71.757	4.884	0.07	35	68.738	8.017	0.12
Duration Surge	54	18.256	5.461	0.30	20	16.026	4.253	0.27	34	19.568	5.718	0.29
Duration Stop	55	12.240	4.099	0.33	20	12.217	2.702	0.22	35	12.253	4.754	0.39
Occurrence Normal	55	44.800	3.953	0.09	20	45.708	3.579	0.08	35	44.282	4.112	0.09
Occurrence Surge	54	26.982	5.493	0.20	20	26.169	5.047	0.19	34	27.460	5.758	0.21
Occurrence Stop	55	21.807	6.100	0.28	20	24.256	4.275	0.18	35	20.409	6.584	0.32

Notes: Values based on Tables A10 to A12 in Appendix 4. Countries are classified into advanced and emerging countries based on average per capita real GDP at US\$2005, where the cut-off is US\$15,000. The list of countries for each group is shown in Table A5 in Appendix 2. Dev. = standard deviation. CoV = coefficient of variation.

Table 3: Summary Statistics of Domestic Factors

Domestic Factors	Full Sample					Advanced	Emerging
	Obs	Mean	Std. Dev.	Min	Max	Mean	Mean
Output Volatility	55	3.57	1.81	1.44	9.57	2.30	4.29
Per Capita Income	55	90.24	13.18	60.11	108.94	103.22	82.83
Domestic Credit	55	62.63	37.03	17.87	182.11	92.99	45.27
Market Capitalization	55	45.14	36.26	3.17	163.25	57.97	37.82
Trade Openness	55	61.28	41.75	17.23	288.32	48.76	68.43
Financial Openness	55	207.40	218.15	39.22	1,231.99	317.94	144.24
Capital Openness	55	60.21	29.09	10.35	100.00	83.47	46.91
Net Foreign Assets	55	-27.03	36.88	-147.39	117.81	-25.87	-27.69
Foreign Reserves	55	12.22	12.14	0.73	78.63	5.90	15.84

Notes: Output volatility refers to the standard deviation of annual output growth. Per capital income is in log multiplied by 10. Capital openness refers to the Chinn-Ito standardized index (2006) scaled to 100. Domestic credit, market capitalization, trade openness, financial openness, net foreign assets, and foreign reserves are in percent of nominal GDP. Refer to Appendix 5 for data sources.

Table 4: Transitional Likelihood: State-Dependence Variables,
Total Gross Inflows

VARIABLES	(1) Normal to Normal	(2) Normal to Surge	(3) Normal to Stop	(4) Surge to Normal	(5) Surge to Surge	(6) Surge to Stop	(7) Stop to Normal	(8) Stop to Surge	(9) Stop to Stop
Duration Normal	0.275*** (0.039)	-0.163*** (0.035)	-0.109** (0.040)	-0.051 (0.260)			-0.048 (0.131)		
Duration Surge		-0.024 (0.048)		-0.511* (0.249)	0.902*** (0.102)	-0.255 (0.171)		0.188 (0.107)	
Duration Stop			-0.063 (0.086)			0.183 (0.229)	-0.597 (0.301)	-0.631** (0.202)	0.913*** (0.234)
Occurrence Normal	-0.295*** (0.060)	0.162*** (0.038)	0.228*** (0.042)	0.993*** (0.218)			0.498** (0.163)		
Occurrence Surge		0.172*** (0.029)		0.532*** (0.140)	-0.719*** (0.102)	0.493** (0.176)		0.432*** (0.105)	
Occurrence Stop			0.184*** (0.043)			0.389 (0.201)	0.419* (0.208)	0.755*** (0.172)	-0.553*** (0.137)
Constant	86.675*** (3.634)	4.453 (2.731)	-2.971 (3.429)	-29.906 (21.058)	82.460*** (2.216)	-14.621* (6.201)	-1.383 (11.257)	-19.974*** (4.936)	78.715*** (2.609)
Observations	55	55	55	55	55	55	55	55	55
R-squared	0.561	0.743	0.510	0.417	0.525	0.240	0.272	0.388	0.299
RSS	139.480	53.835	63.093	1725.582	878.838	1254.890	1186.171	649.839	1226.847

Notes: Dependent variables are transitional likelihoods for total gross inflows in percent as presented in Table A7 in Appendix 4. Duration and occurrence are presented in Table A10 in Appendix 4. RSS pertains to the residual sum of squares. Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Table 5: State-Dependence Variables on Domestic Factors,
Total Gross Inflows

VARIABLES	(1) Duration Normal	(2) Duration Surge	(3) Duration Stop	(4) Occurrence Normal	(5) Occurrence Surge	(6) Occurrence Stop
Output Volatility	-0.442 (0.722)	0.625 (0.655)	-0.183 (0.282)	-0.818** (0.315)	-0.743 (0.562)	0.091 (0.582)
Per Capita Income	0.048 (0.120)	-0.126 (0.097)	0.079 (0.060)	0.036 (0.077)	-0.137 (0.096)	0.100 (0.102)
Domestic Credit	-0.047 (0.040)	0.050 (0.033)	-0.003 (0.022)	0.016 (0.020)	0.006 (0.036)	-0.027 (0.030)
Market Capitalization	0.022 (0.036)	-0.017 (0.029)	-0.005 (0.023)	-0.019 (0.020)	0.019 (0.031)	0.010 (0.028)
Trade Openness	-0.046 (0.046)	0.032 (0.039)	0.013 (0.025)	0.007 (0.032)	-0.007 (0.049)	-0.040 (0.036)
Financial Openness	-0.004 (0.006)	0.010 (0.006)	-0.005* (0.003)	-0.001 (0.004)	0.011 (0.007)	-0.006 (0.006)
Capital Openness	0.020 (0.044)	-0.048 (0.032)	0.028 (0.025)	-0.004 (0.029)	-0.006 (0.030)	0.050* (0.027)
Net Foreign Assets	0.011 (0.026)	-0.004 (0.023)	-0.007 (0.013)	-0.000 (0.018)	0.015 (0.026)	-0.012 (0.022)
Foreign Reserves	0.257* (0.146)	-0.222 (0.136)	-0.035 (0.070)	-0.020 (0.101)	-0.107 (0.160)	0.145 (0.113)
Constant	69.835*** (10.170)	23.619*** (8.352)	6.546 (4.421)	44.576*** (6.314)	38.602*** (7.489)	13.934 (9.187)
Observations	55	55	55	55	55	55
R-squared	0.111	0.197	0.191	0.182	0.183	0.107

Notes: Dependent variables are the “duration” and “occurrence” of “normal”, “surge”, and “stop” episodes as shown in Table A10 in Appendix 4. Output volatility refers to the standard deviation of annual output growth. Per capital income is in log multiplied by 10. Capital openness refers to the Chinn-Ito normalized index (2006) multiplied by 100. Domestic credit, market capitalization, trade openness, financial openness, net foreign assets, and foreign reserves are in percent of nominal GDP. Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Table 6: State-Dependence Variables on Domestic Factors,
Debt Inflows

VARIABLES	(1) Duration Normal	(2) Duration Surge	(3) Duration Stop	(4) Occurrence Normal	(5) Occurrence Surge	(6) Occurrence Stop
Output Volatility	-0.076 (0.624)	0.383 (0.558)	-0.307 (0.408)	-0.742 (0.651)	0.337 (0.621)	-0.587 (0.762)
Per Capita Income	-0.071 (0.119)	-0.021 (0.095)	0.092 (0.058)	-0.045 (0.088)	-0.117 (0.097)	0.136 (0.114)
Domestic Credit	-0.059 (0.049)	0.060* (0.032)	-0.001 (0.031)	0.058 (0.037)	0.020 (0.035)	-0.053 (0.053)
Market Capitalization	0.038 (0.043)	-0.027 (0.030)	-0.011 (0.024)	-0.044* (0.022)	0.043* (0.024)	0.001 (0.034)
Trade Openness	-0.030 (0.043)	0.017 (0.036)	0.013 (0.037)	0.032 (0.037)	0.037 (0.040)	-0.091 (0.056)
Financial Openness	-0.000 (0.005)	0.004 (0.005)	-0.004 (0.003)	0.002 (0.004)	0.004 (0.006)	-0.002 (0.006)
Capital Openness	0.049 (0.044)	-0.041 (0.033)	-0.008 (0.028)	-0.011 (0.032)	0.008 (0.024)	0.025 (0.032)
Net Foreign Assets	-0.008 (0.023)	-0.001 (0.018)	0.009 (0.014)	-0.001 (0.021)	0.021 (0.023)	-0.012 (0.026)
Foreign Reserves	0.116 (0.132)	-0.103 (0.101)	-0.013 (0.091)	-0.073 (0.093)	-0.289*** (0.087)	0.337*** (0.112)
Constant	78.922*** (9.226)	13.239* (7.670)	7.839* (4.157)	48.948*** (6.634)	30.951*** (8.433)	17.445** (8.355)
Observations	55	55	55	55	55	55
R-squared	0.098	0.106	0.093	0.169	0.169	0.125

Notes: Dependent variables are the “duration” and “occurrence” of “normal”, “surge”, and “stop” episodes as shown in Table A11 in Appendix 4. Output volatility refers to the standard deviation of annual output growth. Per capital income is in log multiplied by 10. Capital openness refers to the Chinn-Ito normalized index (2006) multiplied by 100. Domestic credit, market capitalization, trade openness, financial openness, net foreign assets, and foreign reserves are in percent of nominal GDP. Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Table 7: State-Dependence Variables on Domestic Factors,
Equity Inflows

VARIABLES	(1) Duration Normal	(2) Duration Surge	(3) Duration Stop	(4) Occurrence Normal	(5) Occurrence Surge	(6) Occurrence Stop
Output Volatility	0.103 (0.819)	-0.500 (0.536)	0.322 (0.390)	-0.099 (0.378)	-0.275 (0.481)	-0.339 (0.512)
Per Capita Income	-0.010 (0.124)	-0.056 (0.082)	0.072 (0.079)	0.017 (0.074)	-0.121* (0.071)	0.114 (0.109)
Domestic Credit	-0.022 (0.045)	0.034 (0.033)	-0.014 (0.022)	0.029 (0.021)	0.016 (0.035)	-0.040 (0.030)
Market Capitalization	0.031 (0.028)	-0.026 (0.022)	-0.012 (0.017)	-0.025 (0.023)	0.019 (0.028)	0.015 (0.025)
Trade Openness	0.037 (0.053)	0.021 (0.037)	-0.047 (0.029)	0.023 (0.026)	0.040 (0.051)	-0.084* (0.042)
Financial Openness	-0.008 (0.006)	0.006* (0.003)	0.001 (0.004)	0.000 (0.003)	-0.005 (0.005)	0.006* (0.003)
Capital Openness	0.101** (0.048)	-0.114*** (0.037)	0.024 (0.030)	-0.019 (0.030)	-0.001 (0.031)	0.056 (0.045)
Net Foreign Assets	-0.003 (0.030)	-0.005 (0.022)	0.007 (0.016)	-0.006 (0.018)	-0.001 (0.023)	0.012 (0.024)
Foreign Reserves	-0.064 (0.179)	-0.036 (0.120)	0.108 (0.094)	-0.121 (0.098)	-0.094 (0.157)	0.196* (0.112)
Constant	64.371*** (9.279)	28.769*** (4.889)	6.194 (6.269)	43.908*** (5.682)	36.779*** (4.827)	12.969 (8.005)
Observations	55	54	55	55	54	55
R-squared	0.150	0.288	0.108	0.129	0.089	0.244

Notes: Dependent variables are the “duration” and “occurrence” of “normal”, “surge”, and “stop” episodes as shown in Table A12 in Appendix 4. Output volatility refers to the standard deviation of annual output growth. Per capital income is in log multiplied by 10. Capital openness refers to the Chinn-Ito normalized index (2006) multiplied by 100. Domestic credit, market capitalization, trade openness, financial openness, net foreign assets, and foreign reserves are in percent of nominal GDP. Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Table 8: State-Dependence Variables on Domestic Factors,
Total Gross Inflows (Excluding Ireland and Singapore)

VARIABLES	(1) Duration Normal	(2) Duration Surge	(3) Duration Stop	(4) Occurrence Normal	(5) Occurrence Surge	(6) Occurrence Stop
Output Volatility	-0.528 (0.735)	0.615 (0.686)	-0.087 (0.300)	-0.889*** (0.319)	-0.696 (0.597)	0.114 (0.620)
Per Capita Income	0.023 (0.123)	-0.098 (0.098)	0.075 (0.061)	0.026 (0.078)	-0.106 (0.096)	0.073 (0.102)
Domestic Credit	-0.060 (0.045)	0.055 (0.036)	0.005 (0.023)	0.007 (0.020)	0.016 (0.037)	-0.030 (0.030)
Market Capitalization	0.024 (0.039)	-0.010 (0.030)	-0.014 (0.024)	-0.015 (0.023)	0.022 (0.035)	0.002 (0.030)
Trade Openness	-0.047 (0.049)	0.041 (0.038)	0.005 (0.029)	0.009 (0.036)	-0.001 (0.052)	-0.049 (0.036)
Financial Openness	0.010 (0.008)	-0.006 (0.007)	-0.004 (0.005)	0.005 (0.008)	-0.006 (0.011)	0.008 (0.005)
Capital Openness	0.008 (0.048)	-0.034 (0.034)	0.025 (0.026)	-0.008 (0.030)	0.010 (0.034)	0.036 (0.028)
Net Foreign Assets	0.021 (0.026)	-0.009 (0.026)	-0.012 (0.012)	0.006 (0.019)	0.007 (0.025)	-0.009 (0.022)
Foreign Reserves	0.328* (0.163)	-0.262* (0.137)	-0.066 (0.069)	0.022 (0.088)	-0.172 (0.142)	0.177 (0.105)
Constant	71.033*** (10.481)	21.927** (8.453)	7.040 (4.612)	44.934*** (6.437)	36.930*** (7.267)	15.580* (9.112)
Observations	53	53	53	53	53	53
R-squared	0.117	0.147	0.180	0.195	0.161	0.099

Notes: Dependent variables are the “duration” and “occurrence” of “normal”, “surge”, and “stop” episodes as shown in Table A10 in Appendix 4. Output volatility refers to the standard deviation of annual output growth. Per capital income is in log multiplied by 10. Capital openness refers to the Chinn-Ito normalized index (2006) multiplied by 100. Domestic credit, market capitalization, trade openness, financial openness, net foreign assets, and foreign reserves are in percent of nominal GDP. Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Table 9: State-Dependence Variables on Domestic Factors,
Debt Inflows (Excluding Ireland and Singapore)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Duration Normal	Duration Surge	Duration Stop	Occurrence Normal	Occurrence Surge	Occurrence Stop
Output Volatility	-0.134 (0.622)	0.376 (0.574)	-0.242 (0.425)	-0.578 (0.640)	0.194 (0.654)	-0.517 (0.821)
Per Capita Income	-0.093 (0.121)	0.004 (0.096)	0.089 (0.060)	-0.057 (0.087)	-0.089 (0.095)	0.111 (0.114)
Domestic Credit	-0.068 (0.050)	0.064* (0.033)	0.004 (0.031)	0.071* (0.038)	0.013 (0.032)	-0.052 (0.053)
Market Capitalization	0.038 (0.045)	-0.021 (0.030)	-0.017 (0.026)	-0.060** (0.024)	0.061** (0.024)	-0.011 (0.035)
Trade Openness	-0.032 (0.042)	0.025 (0.035)	0.007 (0.040)	0.017 (0.037)	0.055 (0.042)	-0.103* (0.059)
Financial Openness	0.012* (0.006)	-0.009 (0.006)	-0.003 (0.004)	0.007 (0.005)	-0.010* (0.006)	0.011* (0.006)
Capital Openness	0.039 (0.044)	-0.028 (0.034)	-0.010 (0.028)	-0.019 (0.031)	0.024 (0.023)	0.011 (0.034)
Net Foreign Assets	-0.001 (0.024)	-0.005 (0.019)	0.006 (0.014)	-0.009 (0.018)	0.024 (0.020)	-0.012 (0.027)
Foreign Reserves	0.171 (0.126)	-0.138 (0.090)	-0.032 (0.089)	-0.116 (0.094)	-0.278*** (0.085)	0.349*** (0.114)
Constant	80.001*** (9.414)	11.779 (7.723)	8.220* (4.285)	50.129*** (6.347)	28.898*** (8.247)	19.113** (8.268)
Observations	53	53	53	53	53	53
R-squared	0.132	0.117	0.085	0.207	0.174	0.125

Notes: Dependent variables are the “duration” and “occurrence” of “normal”, “surge”, and “stop” episodes as shown in Table A11 in Appendix 4. Output volatility refers to the standard deviation of annual output growth. Per capital income is in log multiplied by 10. Capital openness refers to the Chinn-Ito normalized index (2006) multiplied by 100. Domestic credit, market capitalization, trade openness, financial openness, net foreign assets, and foreign reserves are in percent of nominal GDP. Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Table 10: State-Dependence Variables on Domestic Factors,
Equity Inflows (Excluding Ireland and Singapore)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Duration Normal	Duration Surge	Duration Stop	Occurrence Normal	Occurrence Surge	Occurrence Stop
Output Volatility	0.283 (0.841)	-0.752 (0.533)	0.303 (0.390)	-0.005 (0.397)	-0.653 (0.482)	-0.149 (0.516)
Per Capita Income	-0.031 (0.128)	-0.047 (0.089)	0.088 (0.079)	0.011 (0.075)	-0.128 (0.076)	0.126 (0.109)
Domestic Credit	-0.009 (0.048)	0.013 (0.033)	-0.012 (0.023)	0.037 (0.022)	-0.019 (0.027)	-0.021 (0.032)
Market Capitalization	0.011 (0.029)	-0.005 (0.023)	-0.007 (0.018)	-0.034 (0.026)	0.047* (0.027)	0.002 (0.029)
Trade Openness	0.019 (0.053)	0.041 (0.037)	-0.041 (0.030)	0.014 (0.026)	0.065 (0.054)	-0.093** (0.043)
Financial Openness	0.001 (0.008)	0.004 (0.005)	-0.008* (0.004)	0.003 (0.006)	0.003 (0.010)	-0.002 (0.006)
Capital Openness	0.088* (0.048)	-0.106*** (0.037)	0.033 (0.030)	-0.024 (0.030)	0.001 (0.030)	0.060 (0.047)
Net Foreign Assets	-0.010 (0.031)	0.007 (0.023)	0.006 (0.014)	-0.011 (0.017)	0.021 (0.022)	-0.001 (0.024)
Foreign Reserves	-0.100 (0.208)	0.045 (0.124)	0.090 (0.100)	-0.147 (0.106)	0.057 (0.105)	0.107 (0.115)
Constant	66.090*** (9.791)	27.524*** (5.528)	5.189 (6.366)	44.553*** (5.833)	36.060*** (5.263)	12.851 (7.972)
Observations	53	52	53	53	52	53
R-squared	0.133	0.305	0.153	0.124	0.214	0.261

Notes: Dependent variables are the “duration” and “occurrence” of “normal”, “surge”, and “stop” episodes as shown in Table A12 in Appendix 4. Output volatility refers to the standard deviation of annual output growth. Per capital income is in log multiplied by 10. Capital openness refers to the Chinn-Ito normalized index (2006) multiplied by 100. Domestic credit, market capitalization, trade openness, financial openness, net foreign assets, and foreign reserves are in percent of nominal GDP. Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Table 11: State-Dependence Variables on Domestic Factors,
Total Gross Inflows (Replacing NFA with Foreign Debt Liabilities)

VARIABLES	(1) Duration Normal	(2) Duration Surge	(3) Duration Stop	(4) Occurrence Normal	(5) Occurrence Surge	(6) Occurrence Stop
Output Volatility	-0.453 (0.728)	0.624 (0.647)	-0.171 (0.280)	-0.803** (0.308)	-0.798 (0.531)	0.115 (0.574)
Per Capita Income	0.057 (0.122)	-0.131 (0.096)	0.074 (0.062)	0.039 (0.076)	-0.134 (0.096)	0.093 (0.105)
Domestic Credit	-0.046 (0.041)	0.050 (0.033)	-0.004 (0.022)	0.016 (0.020)	0.008 (0.035)	-0.028 (0.030)
Market Capitalization	0.018 (0.037)	-0.015 (0.030)	-0.003 (0.023)	-0.021 (0.021)	0.020 (0.031)	0.012 (0.029)
Trade Openness	-0.051 (0.045)	0.036 (0.039)	0.016 (0.025)	0.004 (0.030)	-0.008 (0.047)	-0.036 (0.036)
Financial Openness	0.006 (0.013)	0.004 (0.015)	-0.010* (0.006)	0.004 (0.012)	0.010 (0.018)	-0.012 (0.015)
Capital Openness	0.019 (0.044)	-0.047 (0.032)	0.029 (0.025)	-0.005 (0.030)	-0.004 (0.031)	0.051* (0.027)
Foreign Debt Liabilities	-0.035 (0.038)	0.020 (0.038)	0.015 (0.020)	-0.018 (0.041)	0.006 (0.049)	0.022 (0.042)
Foreign Reserves	0.279** (0.133)	-0.231* (0.127)	-0.048 (0.064)	-0.019 (0.086)	-0.082 (0.143)	0.122 (0.102)
Constant	69.583*** (9.994)	23.613*** (8.095)	6.804 (4.587)	44.834*** (6.369)	37.537*** (7.561)	14.427 (9.166)
Observations	55	55	55	55	55	55
R-squared	0.120	0.201	0.195	0.189	0.179	0.109

Notes: Dependent variables are the “duration” and “occurrence” of “normal”, “surge”, and “stop” episodes as shown in Table A10 in Appendix 4. Output volatility refers to the standard deviation of annual output growth. Per capital income is in log multiplied by 10. Capital openness refers to the Chinn-Ito normalized index (2006) multiplied by 100. Domestic credit, market capitalization, trade openness, financial openness, foreign debt liabilities, and foreign reserves are in percent of nominal GDP. Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Table 12: State-Dependence Variables on Domestic Factors,
Debt Inflows (Replacing NFA with Foreign Debt Liabilities)

VARIABLES	(1) Duration Normal	(2) Duration Surge	(3) Duration Stop	(4) Occurrence Normal	(5) Occurrence Surge	(6) Occurrence Stop
Output Volatility	-0.036 (0.644)	0.371 (0.555)	-0.335 (0.409)	-0.756 (0.623)	0.280 (0.586)	-0.551 (0.726)
Per Capita Income	-0.071 (0.122)	-0.025 (0.098)	0.095 (0.060)	-0.050 (0.088)	-0.109 (0.101)	0.131 (0.119)
Domestic Credit	-0.059 (0.049)	0.059* (0.032)	-0.000 (0.031)	0.058 (0.036)	0.022 (0.034)	-0.054 (0.052)
Market Capitalization	0.036 (0.043)	-0.024 (0.030)	-0.011 (0.024)	-0.041* (0.021)	0.041 (0.025)	0.001 (0.033)
Trade Openness	-0.032 (0.043)	0.020 (0.036)	0.011 (0.038)	0.035 (0.037)	0.033 (0.044)	-0.089 (0.060)
Financial Openness	0.004 (0.009)	-0.001 (0.010)	-0.003 (0.006)	-0.005 (0.008)	0.009 (0.012)	-0.004 (0.012)
Capital Openness	0.048 (0.044)	-0.040 (0.034)	-0.008 (0.027)	-0.010 (0.030)	0.008 (0.025)	0.025 (0.033)
Foreign Debt Liabilities	-0.015 (0.025)	0.020 (0.026)	-0.005 (0.017)	0.024 (0.025)	-0.018 (0.031)	0.009 (0.034)
Foreign Reserves	0.104 (0.129)	-0.107 (0.095)	0.003 (0.091)	-0.077 (0.093)	-0.253** (0.100)	0.316** (0.125)
Constant	79.665*** (9.146)	13.038* (7.606)	7.297* (4.153)	48.702*** (6.591)	29.833*** (8.511)	18.136** (8.648)
Observations	55	55	55	55	55	55
R-squared	0.100	0.113	0.089	0.179	0.162	0.123

Notes: Dependent variables are the “duration” and “occurrence” of “normal”, “surge”, and “stop” episodes as shown in Table A11 in Appendix 4. Output volatility refers to the standard deviation of annual output growth. Per capital income is in log multiplied by 10. Capital openness refers to the Chinn-Ito normalized index (2006) multiplied by 100. Domestic credit, market capitalization, trade openness, financial openness, foreign debt liabilities, and foreign reserves are in percent of nominal GDP. Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Table 13: State-Dependence Variables on Domestic Factors,
Equity Inflows (Replacing NFA with Foreign Debt Liabilities)

VARIABLES	(1) Duration Normal	(2) Duration Surge	(3) Duration Stop	(4) Occurrence Normal	(5) Occurrence Surge	(6) Occurrence Stop
Output Volatility	0.089 (0.796)	-0.463 (0.512)	0.311 (0.387)	-0.089 (0.387)	-0.245 (0.455)	-0.384 (0.509)
Per Capita Income	-0.016 (0.130)	-0.052 (0.089)	0.077 (0.079)	0.013 (0.074)	-0.114 (0.075)	0.116 (0.112)
Domestic Credit	-0.022 (0.044)	0.033 (0.033)	-0.013 (0.022)	0.029 (0.021)	0.016 (0.035)	-0.039 (0.028)
Market Capitalization	0.035 (0.029)	-0.030 (0.021)	-0.014 (0.017)	-0.023 (0.024)	0.014 (0.028)	0.017 (0.025)
Trade Openness	0.042 (0.054)	0.017 (0.038)	-0.050* (0.029)	0.025 (0.026)	0.035 (0.051)	-0.084* (0.043)
Financial Openness	-0.017 (0.011)	0.013 (0.009)	0.006 (0.006)	-0.004 (0.007)	0.006 (0.014)	0.004 (0.011)
Capital Openness	0.103** (0.046)	-0.116*** (0.037)	0.024 (0.029)	-0.019 (0.029)	-0.003 (0.032)	0.057 (0.046)
Foreign Debt Liabilities	0.033 (0.037)	-0.028 (0.031)	-0.019 (0.018)	0.014 (0.024)	-0.041 (0.043)	0.006 (0.036)
Foreign Reserves	-0.072 (0.181)	-0.042 (0.121)	0.123 (0.088)	-0.133 (0.089)	-0.091 (0.148)	0.215* (0.110)
Constant	64.127*** (9.480)	29.480*** (5.453)	5.965 (6.087)	44.124*** (5.459)	37.366*** (5.277)	12.121 (8.117)
Observations	55	54	55	55	54	55
R-squared	0.159	0.298	0.113	0.132	0.112	0.241

Notes: Dependent variables are the “duration” and “occurrence” of “normal”, “surge”, and “stop” episodes as shown in Table A12 in Appendix 4. Output volatility refers to the standard deviation of annual output growth. Per capital income is in log multiplied by 10. Capital openness refers to the Chinn-Ito normalized index (2006) multiplied by 100. Domestic credit, market capitalization, trade openness, financial openness, foreign debt liabilities, and foreign reserves are in percent of nominal GDP. Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Table 14: State-Dependence Variables on Domestic Factors,
Total Gross Inflows (Fewer Domestic Factors)

VARIABLES	(1) Duration Normal	(2) Duration Surge	(3) Duration Stop	(4) Occurrence Normal	(5) Occurrence Surge	(6) Occurrence Stop
Per Capita Income	0.022 (0.086)	-0.140* (0.075)	0.118*** (0.042)	0.077 (0.051)	-0.108 (0.070)	0.117 (0.078)
Market Capitalization	0.013 (0.026)	-0.005 (0.026)	-0.008 (0.017)	0.004 (0.013)	0.040* (0.023)	-0.003 (0.023)
Financial Openness	-0.006 (0.005)	0.010 (0.007)	-0.004* (0.002)	-0.001 (0.003)	0.010 (0.007)	-0.007 (0.005)
Foreign Reserves	0.137** (0.068)	-0.116* (0.069)	-0.021 (0.041)	-0.056 (0.040)	-0.152** (0.075)	0.040 (0.057)
Constant	67.972*** (7.577)	27.519*** (6.662)	4.509 (3.522)	38.541*** (4.426)	32.319*** (6.000)	14.076** (7.001)
Observations	55	55	55	55	55	55
R-squared	0.071	0.127	0.150	0.086	0.144	0.068

Notes: Dependent variables are the “duration” and “occurrence” of “normal”, “surge”, and “stop” episodes as shown in Table A10 in Appendix 4. Per capital income is in log multiplied by 10. Market capitalization, financial openness, and foreign reserves are in percent of nominal GDP. Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Table 15: State-Dependence Variables on Domestic Factors,
Debt Inflows (Fewer Domestic Factors)

VARIABLES	(1) Duration Normal	(2) Duration Surge	(3) Duration Stop	(4) Occurrence Normal	(5) Occurrence Surge	(6) Occurrence Stop
Per Capita Income	-0.090 (0.078)	-0.006 (0.067)	0.096** (0.037)	0.045 (0.059)	-0.070 (0.068)	0.092 (0.079)
Market Capitalization	0.008 (0.034)	-0.002 (0.025)	-0.007 (0.018)	-0.002 (0.015)	0.045** (0.019)	-0.005 (0.028)
Financial Openness	-0.000 (0.005)	0.003 (0.005)	-0.003* (0.002)	0.002 (0.003)	0.006 (0.004)	-0.007* (0.004)
Foreign Reserves	0.035 (0.059)	-0.047 (0.052)	0.012 (0.035)	-0.049 (0.041)	-0.151*** (0.052)	0.064 (0.051)
Constant	80.307*** (6.826)	13.956** (5.889)	5.737* (3.252)	40.793*** (5.157)	29.061*** (6.125)	16.848** (6.956)
Observations	55	55	55	55	55	55
R-squared	0.044	0.023	0.071	0.045	0.134	0.039

Notes: Dependent variables are the “duration” and “occurrence” of “normal”, “surge”, and “stop” episodes as shown in Table A11 in Appendix 4. Per capital income is in log multiplied by 10. Market capitalization, financial openness, and foreign reserves are in percent of nominal GDP. Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Table 16: State-Dependence Variables on Domestic Factors,
Equity Inflows (Fewer Domestic Factors)

VARIABLES	(1) Duration Normal	(2) Duration Surge	(3) Duration Stop	(4) Occurrence Normal	(5) Occurrence Surge	(6) Occurrence Stop
Per Capita Income	0.104 (0.099)	-0.150** (0.062)	0.073 (0.051)	0.034 (0.048)	-0.087 (0.052)	0.139** (0.066)
Market Capitalization	0.005 (0.025)	-0.000 (0.022)	-0.016 (0.017)	-0.011 (0.017)	0.027 (0.018)	0.015 (0.028)
Financial Openness	-0.003 (0.007)	0.004 (0.004)	-0.002 (0.003)	0.001 (0.002)	-0.002 (0.005)	0.002 (0.003)
Foreign Reserves	0.039 (0.123)	-0.026 (0.089)	0.023 (0.045)	-0.083* (0.045)	-0.016 (0.086)	-0.013 (0.061)
Constant	60.352*** (8.554)	31.335*** (5.318)	6.523 (4.491)	43.080*** (4.160)	34.296*** (4.308)	8.359 (5.771)
Observations	55	54	55	55	54	55
R-squared	0.032	0.102	0.045	0.096	0.062	0.142

Notes: Dependent variables are the “duration” and “occurrence” of “normal”, “surge”, and “stop” episodes as shown in Table A12 in Appendix 4. Per capital income is in log multiplied by 10. Market capitalization, financial openness, and foreign reserves are in percent of nominal GDP. Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Table 17: Bivariate Estimates of State-Dependence Variables on Domestic Factors,
(Total Gross Inflows)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Duration Normal	Duration Surge	Duration Stop	Occurrence Normal	Occurrence Surge	Occurrence Stop
Output Volatility	-0.080 (0.590)	0.436 (0.533)	-0.357 (0.245)	-0.907*** (0.234)	-0.981** (0.439)	-0.048 (0.408)
Per Capita Income	-0.021 (0.071)	-0.062 (0.064)	0.083** (0.034)	0.075 (0.046)	0.017 (0.069)	0.058 (0.066)
Domestic Credit	-0.004 (0.021)	-0.008 (0.017)	0.012 (0.014)	0.025* (0.013)	0.026 (0.023)	0.007 (0.019)
Market Capitalization	0.015 (0.021)	-0.009 (0.020)	-0.006 (0.014)	0.004 (0.014)	0.037* (0.019)	-0.002 (0.019)
Trade Openness	0.009 (0.019)	-0.001 (0.015)	-0.008 (0.010)	-0.015 (0.012)	-0.006 (0.023)	-0.012 (0.012)
Financial Openness	-0.002 (0.005)	0.004 (0.006)	-0.002 (0.002)	0.000 (0.003)	0.008 (0.005)	-0.004 (0.005)
Capital Openness	-0.006 (0.033)	-0.032 (0.029)	0.038** (0.016)	0.023 (0.021)	0.012 (0.030)	0.030 (0.026)
Net Foreign Assets	0.027* (0.015)	-0.020* (0.011)	-0.007 (0.010)	0.003 (0.017)	0.017 (0.015)	-0.006 (0.012)
Foreign Reserves	0.115** (0.051)	-0.057 (0.034)	-0.058* (0.030)	-0.065** (0.025)	-0.051 (0.084)	-0.010 (0.041)
Observations	55	55	55	55	55	55

Notes: Dependent variables are the “duration” and “occurrence” of “normal”, “surge”, and “stop” episodes as shown in Table A10 in Appendix 4. Results pertain to the estimated coefficients and standard errors of bivariate regression between each state dependence variable and individual domestic factors. Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Table 18: Bivariate Estimates of State-Dependence Variables on Domestic Factors,
(Debt Inflows)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Duration Normal	Duration Surge	Duration Stop	Occurrence Normal	Occurrence Surge	Occurrence Stop
Output Volatility	0.275 (0.453)	0.079 (0.403)	-0.354 (0.316)	-0.814 (0.575)	-0.311 (0.422)	-0.384 (0.673)
Per Capita Income	-0.086 (0.064)	0.021 (0.054)	0.065* (0.033)	0.065 (0.051)	0.028 (0.061)	0.031 (0.066)
Domestic Credit	-0.030 (0.019)	0.019 (0.015)	0.011 (0.013)	0.033* (0.017)	0.026 (0.021)	-0.001 (0.023)
Market Capitalization	0.001 (0.024)	0.001 (0.018)	-0.002 (0.014)	0.004 (0.013)	0.036* (0.019)	-0.004 (0.021)
Trade Openness	0.006 (0.011)	-0.004 (0.011)	-0.002 (0.010)	-0.002 (0.012)	-0.002 (0.014)	-0.022 (0.018)
Financial Openness	-0.001 (0.003)	0.002 (0.004)	-0.001 (0.002)	0.003 (0.002)	0.005 (0.004)	-0.004 (0.004)
Capital Openness	-0.009 (0.029)	-0.007 (0.024)	0.016 (0.019)	0.025 (0.022)	0.022 (0.025)	0.003 (0.029)
Net Foreign Assets	-0.005 (0.019)	-0.004 (0.012)	0.009 (0.010)	0.006 (0.015)	0.011 (0.014)	-0.000 (0.014)
Foreign Reserves	0.050 (0.043)	-0.030 (0.028)	-0.020 (0.027)	-0.042 (0.045)	-0.071 (0.047)	0.016 (0.040)
Observations	55	55	55	55	55	55

Notes: Dependent variables are the “duration” and “occurrence” of “normal”, “surge”, and “stop” episodes as shown in Table A11 in Appendix 4. Results pertain to the estimated coefficients and standard errors of bivariate regression between each state dependence variable and individual domestic factors. Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Table 19: Bivariate Estimates of State-Dependence Variables on Domestic Factors,
(Equity Inflows)

VARIABLES	(1) Duration Normal	(2) Duration Surge	(3) Duration Stop	(4) Occurrence Normal	(5) Occurrence Surge	(6) Occurrence Stop
Output Volatility	-0.082 (0.522)	-0.005 (0.349)	0.131 (0.330)	-0.278 (0.324)	-0.102 (0.372)	-0.827** (0.387)
Per Capita Income	0.084 (0.069)	-0.119** (0.046)	0.042 (0.039)	0.035 (0.039)	-0.079* (0.043)	0.167*** (0.054)
Domestic Credit	0.013 (0.023)	-0.020 (0.020)	0.002 (0.014)	0.008 (0.014)	-0.004 (0.020)	0.043** (0.019)
Market Capitalization	0.015 (0.021)	-0.012 (0.021)	-0.009 (0.014)	-0.013 (0.016)	0.008 (0.021)	0.035 (0.025)
Trade Openness	0.023 (0.017)	-0.005 (0.015)	-0.010 (0.011)	-0.015* (0.009)	0.001 (0.022)	-0.006 (0.028)
Financial Openness	0.001 (0.006)	-0.001 (0.004)	-0.001 (0.002)	-0.000 (0.002)	-0.003 (0.004)	0.006** (0.003)
Capital Openness	0.078** (0.032)	-0.085*** (0.023)	0.016 (0.021)	0.005 (0.017)	-0.021 (0.026)	0.071** (0.029)
Net Foreign Assets	0.008 (0.029)	-0.011 (0.023)	0.005 (0.011)	-0.016 (0.016)	-0.003 (0.023)	0.031* (0.017)
Foreign Reserves	0.019 (0.094)	0.008 (0.076)	-0.008 (0.031)	-0.092** (0.036)	0.005 (0.083)	-0.000 (0.078)
Observations	55	54	55	55	54	55

Notes: Dependent variables are the “duration” and “occurrence” of “normal”, “surge”, and “stop” episodes as shown in Table A12 in Appendix 4. Results pertain to the estimated coefficients and standard errors of bivariate regression between each state dependence variable and individual domestic factors. Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Appendix 1: Transitional Likelihood Regressions

Table A1: Transitional Likelihood on Domestic and State Dependence Variables
(Total Gross Inflows)

VARIABLES	(1) Normal to Normal	(2) Normal to Surge	(3) Normal to Stop	(4) Surge to Normal	(5) Surge to Surge	(6) Surge to Stop	(7) Stop to Normal	(8) Stop to Surge	(9) Stop to Stop
Duration Normal	0.292*** (0.034)	-0.202*** (0.050)	-0.131*** (0.035)	0.116 (0.360)			-0.187 (0.152)		
Duration Surge		-0.070 (0.072)		-0.204 (0.424)	0.737*** (0.151)	-0.504** (0.150)		0.168 (0.119)	
Duration Stop			-0.091 (0.079)			0.411 (0.227)	-0.846* (0.349)	-0.684** (0.239)	1.035*** (0.274)
Occurrence Normal	-0.262*** (0.057)	0.208*** (0.056)	0.217*** (0.038)	0.844** (0.291)			0.564** (0.171)		
Occurrence Surge		0.193*** (0.041)		0.448* (0.216)	-0.615*** (0.131)	0.714*** (0.167)		0.539*** (0.130)	
Occurrence Stop			0.186*** (0.037)			0.401* (0.173)	0.504* (0.203)	0.826*** (0.175)	-0.556*** (0.127)
Output Volatility	0.493* (0.184)	0.032 (0.132)	-0.257* (0.124)	-1.029 (0.721)	1.010** (0.354)	1.187** (0.434)	-0.562 (0.499)	0.005 (0.337)	1.071* (0.479)
Per Capita Income	-0.014 (0.025)	-0.002 (0.019)	0.018 (0.019)	0.119 (0.095)	-0.058 (0.072)	-0.091 (0.069)	-0.038 (0.098)	0.109 (0.072)	-0.026 (0.099)
Domestic Credit	0.023 (0.011)	-0.014 (0.007)	-0.007 (0.008)	-0.029 (0.042)	0.031 (0.032)	-0.003 (0.027)	-0.024 (0.035)	0.007 (0.025)	0.007 (0.034)
Market Capitalization	0.002 (0.008)	0.007 (0.005)	-0.013 (0.006)	-0.072 (0.036)	0.015 (0.026)	0.059** (0.021)	0.025 (0.025)	-0.053** (0.019)	0.025 (0.027)
Trade Openness	0.029* (0.011)	-0.003 (0.007)	-0.016 (0.008)	-0.039 (0.043)	0.003 (0.025)	0.050 (0.029)	0.045 (0.028)	-0.018 (0.024)	-0.004 (0.037)
Financial Openness	-0.002 (0.001)	0.000 (0.001)	0.001 (0.001)	-0.000 (0.005)	0.002 (0.003)	-0.002 (0.004)	-0.010** (0.003)	-0.000 (0.003)	0.004 (0.004)
Capital Openness	-0.012 (0.010)	0.003 (0.006)	0.001 (0.008)	0.011 (0.043)	-0.016 (0.021)	-0.021 (0.031)	0.044 (0.030)	-0.030 (0.031)	-0.022 (0.039)
Net Foreign Assets	0.004 (0.006)	-0.003 (0.004)	-0.002 (0.004)	0.016 (0.016)	-0.002 (0.011)	-0.016 (0.017)	-0.027 (0.018)	0.009 (0.014)	0.019 (0.023)
Foreign Reserves	-0.109** (0.036)	0.015 (0.024)	0.082** (0.024)	0.218 (0.113)	-0.075 (0.067)	-0.134 (0.092)	0.031 (0.122)	0.112 (0.057)	-0.118 (0.121)
Constant	82.789*** (2.894)	5.570 (3.541)	-0.575 (2.981)	-40.105 (27.948)	82.644*** (6.334)	-18.293* (7.594)	8.089 (13.588)	-29.336** (8.580)	76.810*** (7.038)
Observations	55	55	55	55	55	55	55	55	55
R-squared	0.714	0.778	0.662	0.547	0.602	0.503	0.432	0.536	0.402
RSS	90.874	46.485	43.523	1340.972	737.659	821.768	924.740	493.297	1045.168

Notes: Dependent variables are transitional likelihood for total gross inflows in percent as presented in Table A7 in Appendix 4. Duration and occurrence are presented in Table A10 in Appendix 4. Output volatility refers to the standard deviation of annual output growth. Per capita income is in log multiplied by 10. Capital openness refers to the Chinn-Ito normalized index (2006) multiplied by 100. Domestic credit, market capitalization, trade openness, financial openness, net foreign assets, and foreign reserves are in percent of nominal GDP. RSS pertains to the residual sum of squares. Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Table A2: Transitional Likelihood on Domestic Factors
(Total Gross Inflows)

VARIABLES	(1) Normal to Normal	(2) Normal to Surge	(3) Normal to Stop	(4) Surge to Normal	(5) Surge to Surge	(6) Surge to Stop	(7) Stop to Normal	(8) Stop to Surge	(9) Stop to Stop
Output Volatility	0.579** (0.188)	-0.236 (0.176)	-0.343* (0.137)	-2.230*** (0.550)	1.927*** (0.521)	0.303 (0.451)	-0.740 (0.473)	-0.090 (0.421)	0.831 (0.575)
Per Capita Income	-0.009 (0.042)	-0.022 (0.037)	0.031 (0.025)	0.119 (0.117)	-0.067 (0.100)	-0.052 (0.094)	-0.042 (0.117)	0.043 (0.085)	-0.000 (0.124)
Domestic Credit	0.005 (0.016)	-0.003 (0.012)	-0.002 (0.009)	-0.029 (0.040)	0.065 (0.035)	-0.036 (0.030)	-0.017 (0.039)	-0.001 (0.022)	0.018 (0.036)
Market Capitalization	0.014 (0.012)	0.003 (0.009)	-0.017* (0.008)	-0.073* (0.035)	-0.009 (0.030)	0.083* (0.033)	0.020 (0.031)	-0.034* (0.017)	0.015 (0.032)
Trade Openness	0.014 (0.014)	0.004 (0.011)	-0.018 (0.010)	-0.049 (0.038)	0.031 (0.029)	0.018 (0.033)	0.027 (0.036)	-0.058 (0.029)	0.031 (0.042)
Financial Openness	-0.003 (0.003)	0.002 (0.002)	0.000 (0.001)	0.001 (0.005)	0.002 (0.003)	-0.004 (0.003)	-0.008* (0.003)	0.006 (0.003)	0.001 (0.003)
Capital Openness	-0.005 (0.013)	0.001 (0.009)	0.004 (0.010)	0.018 (0.045)	-0.048 (0.030)	0.031 (0.038)	0.040 (0.042)	-0.019 (0.032)	-0.020 (0.050)
Net Foreign Assets	0.008 (0.008)	-0.002 (0.007)	-0.005 (0.005)	0.025 (0.020)	-0.014 (0.016)	-0.011 (0.021)	-0.030 (0.021)	0.011 (0.022)	0.018 (0.028)
Foreign Reserves	-0.029 (0.042)	-0.046 (0.037)	0.074* (0.028)	0.228* (0.108)	-0.174* (0.084)	-0.055 (0.115)	0.075 (0.146)	0.160* (0.078)	-0.235 (0.142)
Constant	91.473*** (3.103)	6.561* (3.140)	1.966 (1.909)	18.049 (9.872)	76.327*** (9.897)	5.625 (7.143)	21.675* (9.318)	2.487 (6.208)	75.838*** (9.729)
Observations	55	55	55	55	55	55	55	55	55
R-squared	0.241	0.152	0.283	0.341	0.363	0.159	0.142	0.134	0.098
RSS	241.289	177.630	92.344	1951.451	1179.072	1388.824	1396.925	919.439	1578.453

Notes: Dependent variables are transitional likelihood for total gross inflows in percent as presented in Table A7 in Appendix 4. Output volatility refers to the standard deviation of annual output growth. Per capital income is in log multiplied by 10. Capital openness refers to the Chinn-Ito normalized index (2006) multiplied by 100. Domestic credit, market capitalization, trade openness, financial openness, net foreign assets, and foreign reserves are in percent of nominal GDP. RSS pertains to the residual sum of squares. Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Table A3: Transitional Likelihood on Duration Dependence
(Total Gross Inflows)

VARIABLES	(1) Normal to Normal	(2) Normal to Surge	(3) Normal to Stop	(4) Surge to Normal	(5) Surge to Surge	(6) Surge to Stop	(7) Stop to Normal	(8) Stop to Surge	(9) Stop to Stop
Duration Normal	0.207*** (0.049)	-0.085* (0.041)	0.029 (0.032)	0.325 (0.277)			0.262* (0.104)		
Duration Surge		0.147* (0.060)		0.047 (0.283)	0.359* (0.140)	-0.076 (0.104)		0.145 (0.093)	
Duration Stop			0.164** (0.053)			0.404* (0.180)	-0.079 (0.189)	-0.097 (0.157)	0.421* (0.192)
Constant	78.342*** (3.623)	7.773* (3.631)	-1.364 (2.612)	-7.617 (23.104)	73.006*** (2.331)	0.927 (2.953)	1.618 (9.063)	1.769 (2.448)	72.446*** (3.050)
Observations	55	55	55	55	55	55	55	55	55
R-squared	0.333	0.492	0.131	0.071	0.132	0.089	0.125	0.047	0.081
RSS	212.063	106.488	111.839	2748.632	1607.994	1504.124	1426.027	1011.704	1607.559

Notes: Dependent variables are transitional likelihood for total gross inflows in percent as presented in Table A7 in Appendix 4. Values for duration are presented in Table A10 in Appendix 4. RSS pertains to the residual sum of squares. Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Table A4: Transitional Likelihood on Occurrence Dependence
(Total Gross Inflows)

VARIABLES	(1) Normal to Normal	(2) Normal to Surge	(3) Normal to Stop	(4) Surge to Normal	(5) Surge to Surge	(6) Surge to Stop	(7) Stop to Normal	(8) Stop to Surge	(9) Stop to Stop
Occurrence Normal	-0.132 (0.074)	0.098* (0.043)	0.164*** (0.042)	1.050*** (0.220)			0.533** (0.158)		
Occurrence Surge		0.225*** (0.028)		0.272* (0.117)	-0.200 (0.116)	0.412** (0.128)		0.385*** (0.097)	
Occurrence Stop			0.135*** (0.029)			0.533** (0.160)	0.190 (0.126)	0.379*** (0.107)	-0.208* (0.101)
Constant	98.919*** (3.265)	-5.941* (2.283)	-7.545** (2.188)	-37.466** (11.294)	83.446*** (3.129)	-17.380** (6.216)	-9.188 (8.181)	-15.777*** (4.335)	83.119*** (2.487)
Observations	55	55	55	55	55	55	55	55	55
R-squared	0.053	0.558	0.386	0.341	0.054	0.197	0.181	0.208	0.046
RSS	301.018	92.607	79.082	1950.467	1751.891	1326.126	1333.404	841.225	1667.868

Notes: Dependent variables are transitional likelihood for total gross inflows in percent as presented in Table A7 in Appendix 4. Values for occurrence are presented in Table A10 in Appendix 4. RSS pertains to the residual sum of squares. Robust standard errors are in parenthesis. *** p<0.01, ** p<0.05, * p<0.1.

Appendix 2: Dataset on Capital Flows

Our primary source for quarterly gross capital inflows data is the Balance of Payments Statistics presented in the International Monetary Fund's (IMF) International Financial Statistics (IFS). We access the data from CEIC Database. We define gross capital inflows to include foreign direct investment liabilities, portfolio investment liabilities and other investment liabilities. Our primary period coverage is from 1970Q1 to 2014Q4 for 55 advanced and emerging economies. Table A5 presents country list and classification along with the dates when quarterly data are available.

Table A5: Country Sample

Advanced		Emerging and Developing	
Country	Start	Country	Start
Australia	1Q1970	Argentina	1Q1976
Austria	1Q1970	Bangladesh	1Q1976
Canada	1Q1970	Bolivia	1Q1988
Denmark	1Q1975	Brazil	1Q1975
Finland	1Q1975	Chile	1Q1987
France	1Q1975	Colombia	1Q1992
Germany	1Q1971	Croatia	1Q1993
Greece	1Q1976	Czech Republic	1Q1993
Iceland	1Q1976	Estonia	1Q1992
Ireland	1Q1981	Hungary	4Q1989
Italy	1Q1970	India	1Q1975
Japan	1Q1977	Indonesia	1Q1981
Netherlands	1Q1970	Israel	1Q1972
New Zealand	1Q1980	Jordan	1Q1977
Norway	1Q1975	Korea	1Q1976
Portugal	1Q1975	Latvia	1Q1993
Spain	1Q1975	Lithuania	1Q1993
Sweden	1Q1975	Mexico	1Q1979
United Kingdom	1Q1970	Moldova	1Q1994
United States	1Q1973	Pakistan	1Q1976
		Peru	1Q1977
		Philippines	1Q1977
		Poland	1Q1985
		Romania	1Q1991
		Russia	1Q1994
		Singapore	1Q1986
		Slovakia	1Q1993
		Slovenia	1Q1992
		South Africa	1Q1985
		Sri Lanka	1Q1977
		Taiwan	1Q1981
		Thailand	1Q1976
		Turkey	1Q1984
		Ukraine	1Q1994
		Venezuela	1Q1990

Several modifications are made to make the dataset usable and consistent.

- We select countries closely following the sample of Forbes and Warnock (2012a and 2012b). However, we exclude Belgium-Luxembourg, Guatemala, Hong Kong, Malaysia, Nicaragua, Panama, and Switzerland because they either have short period coverage or limited data availability for capital flows. But we add four countries to increase the sample size. These

countries have longer quarterly gross capital inflows data available. They include Jordan, Moldova, Pakistan, and Ukraine.

- IFS reports some values in billions of U.S. dollars, while most are in millions of U.S. dollars. Although the reported unit will not affect the identification of episodes, all values are converted to millions of U.S. dollars for consistency.
- Quarterly data before 2012Q1 follows the IMF's Balance of Payments Manual 5; while data from 2012Q1 onwards follows Balance of Payment Manual 6. The signs of gross inflows categories were made consistent to that using Balance of Payments Manual 5. No attempt was made to reconcile both series as small categorical changes are made for financial account liabilities, mostly involving intra-category changes for foreign direct investment liabilities. The transition from BPM5 to BPM6 does not affect our computed aggregate gross capital inflows.
- Data for Taiwan is sourced from the Central Bank of the Republic of China (Taiwan) accessed through CEIC Database.
- For some countries, data points are extended to increase the available periods in computing for rolling mean and standard deviation. Quarterly data for Chile (1987Q1-1990Q4), Colombia (1992Q1-1995Q4), and Venezuela (1990Q1-1993Q4) are computed by dividing the annual values sourced from the IFS by four. This modification departs from Forbes and Warnock (2012a and 2012b) approach where they do not extend the series for some countries. A justification for extending the series by four years for some countries is that the actual dating of an episode will start after the fourth year or 17th quarter from the start of available data. The extended data points will in effect be used only for computing the rolling mean and rolling standard deviation.
- Data gaps for Greece (1998Q1-1998Q4), Norway (1992Q1-1993Q4), Peru (1985Q1-1990Q4), Poland (1996Q1-1999Q4), and Slovakia (2001Q1-2001Q4) are filled in by using annual values sourced from the IFS or from national sources divided by four. Data gaps are filled in to generate continuous series needed to calculate rolling standard deviation and mean for episode identification and transitional likelihoods computation.
- Unlike Forbes and Warnock (2012a and 2012b), we do not make adjustments to fill in data gaps in the series. Forbes and Warnock (2012a and 2012b) replace interior missing data with zeros if the string of missing values is surrounded with zeros or other values; and/or used data on net error and omissions to fill in the gaps. In this paper, no adjustments are made so as to consider only those classified financial transactions from the Balance of Payments.
- Similar to Forbes and Warnock (2012a and 2012b) , our computed inflows exclude financial derivative liabilities as unlike other debt instruments, no principal amount is advanced to be repaid and no investment income accrues for derivatives.

Appendix 3: Episodes of Gross Capital Inflows

Table A6: Episodes of Capital Inflows

Country	Total				Debt				Equity			
	SURGES		STOPS		SURGES		STOPS		SURGES		STOPS	
	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
Advanced Economies												
Australia	1980q4	1982q4	1983q1	1984q1	1980q4	1983q1	1980q1	1980q3	1980q2	1981q2	1981q3	1983q2
Australia	1988q4	1989q1	1989q2	1991q3	1994q1	1994q3	1983q2	1984q1	1985q4	1986q1	1984q4	1985q1
Australia	1993q4	1994q3	1997q2	1998q1	1995q2	1997q1	1990q4	1991q3	1986q4	1987q3	1996q3	1996q4
Australia	1995q3	1996q3	2004q4	2005q4	2003q4	2004q3	1997q2	1998q1	1993q1	1993q4	2004q4	2005q4
Australia	1999q3	1999q4			2009q3	2010q3	2007q3	2007q4	2006q1	2007q1		
Australia	2002q3	2002q4					2008q4	2009q2				
Australia	2003q4	2004q3										
Australia	2006q1	2007q1										
Austria	1980q3	1980q4	1981q3	1982q3	1980q3	1980q4	1981q3	1982q3	1980q2	1980q4	1982q3	1983q3
Austria	1992q2	1993q1	2001q1	2002q1	1992q2	1993q1	1996q2	1997q1	1982q1	1982q2	1990q3	1991q4
Austria	1999q2	2000q1			1999q2	2000q2	2001q1	2002q1	1987q3	1990q2	2005q4	2006q4
Austria	2003q4	2005q4					2007q2	2009q4	1996q1	1996q4		
Austria									2005q1	2005q3		
Canada	1981q2	1981q4	1982q1	1983q1	1981q2	1981q4	1982q1	1983q2	1980q1	1980q3	1980q4	1982q1
Canada	1996q4	1997q3	1991q2	1992q1	1997q1	1997q3	1995q2	1996q1	1987q2	1987q4	1988q1	1989q1
Canada	2000q1	2001q1	1995q2	1996q1	2001q3	2002q2	2013q3	2014q2	2000q1	2000q4	2001q1	2002q3
Canada	2006q2	2007q1	2008q4	2009q2	2009q4	2010q2			2013q2	2014q1	2008q3	2009q3
Denmark	1985q4	1986q2	1986q3	1987q2	1985q4	1986q2	1986q3	1987q2	1985q4	1986q3	1992q4	1993q1
Denmark	2005q1	2005q4	1989q2	1989q4	1995q2	1996q4	1989q2	1989q4	1988q2	1990q3	1995q3	1996q4
Denmark			1991q4	1993q2	2005q1	2005q4	1991q4	1992q3	1994q3	1995q2	2001q1	2002q1
Denmark			1994q3	1995q1			1994q3	1995q1	1999q3	2000q4		
Denmark			2001q2	2002q1			2000q1	2000q3				
Denmark			2008q4	2009q4			2008q4	2009q4				
Denmark							2011q2	2011q4				
Finland	1984q3	1985q1	1985q4	1986q2	1984q3	1985q1	1985q4	1986q3	1981q1	1981q4	1982q3	1983q1
Finland	1987q1	1987q4	1991q1	1992q2	1986q4	1987q4	1991q1	1992q2	1986q2	1987q3	1991q4	1992q2
Finland	1996q3	1997q3	2001q1	2001q4	1996q3	1997q3	2005q1	2005q3	1992q3	1994q3	2001q1	2001q4
Finland	1998q4	1999q1	2009q2	2009q3	2004q3	2004q4	2009q2	2009q3	1998q2	1999q1	2008q2	2009q1
Finland	2004q3	2004q4	2012q3	2013q3	2011q3	2011q4	2012q3	2013q3	2014q1	2014q4		
Finland	2010q2	2010q3										
Finland	2011q3	2011q4										
France	1986q3	1987q4	1981q3	1982q2	1986q4	1988q1	1981q3	1982q2	1985q1	1986q4	1981q3	1982q4
France	1989q1	1989q4	1991q1	1992q1	1997q4	1998q3	1991q1	1992q1	1989q3	1990q3	1993q1	1993q2
France	1997q4	1998q3	2001q3	2002q3	2001q1	2001q2	2002q1	2002q3	1999q3	2000q3	1994q3	1995q2
France	2001q1	2001q2	2008q1	2009q3			2008q1	2009q3	2005q3	2006q2	2001q3	2002q2
France											2007q1	2007q4
Germany	1980q1	1980q2	1981q4	1982q4	1980q1	1980q2	1981q4	1982q4	1986q1	1986q4	1980q2	1981q1
Germany	1986q1	1986q4	1987q4	1988q3	1986q1	1986q3	1987q4	1988q3	1988q4	1990q1	1987q4	1988q3
Germany	1989q2	1990q1	1993q4	1994q4	1989q2	1990q1	1994q1	1994q4	1997q1	1998q4	1990q4	1991q2
Germany	1992q3	1993q3	2001q1	2002q2	1992q3	1993q2	2000q1	2002q2	2000q1	2000q3	2000q4	2001q4
Germany	2005q1	2005q4	2008q2	2009q3	2003q1	2003q2	2008q4	2009q3	2007q1	2007q3	2008q2	2009q1
Germany	2007q2	2008q1			2004q3	2005q3						
Germany					2007q2	2008q1						
Greece	1989q4	1991q1	1981q4	1982q3	1989q4	1990q3	1981q3	1982q1	1987q1	1988q4	1981q4	1982q3
Greece	1995q1	1995q2	1992q1	1992q4	1995q1	1995q2	1992q1	1992q2	2000q2	2001q2	1998q1	2000q1
Greece	1996q3	1997q1	1995q3	1996q2	1996q3	1997q1	1995q3	1996q2	2006q3	2007q2	2008q1	2009q1
Greece	1998q2	1999q1	1997q2	1998q1	2005q1	2005q3	1997q2	1998q2	2013q4	2014q4		
Greece	2002q2	2003q1	2005q4	2006q4	2007q1	2008q3	2005q4	2006q4				
Greece	2005q1	2005q3	2010q2	2011q2			2010q2	2011q2				
Greece	2007q1	2007q4										
Iceland	1987q1	1987q4	1982q4	1983q4	1987q1	1987q4	1982q4	1983q3	1990q1	1991q2	1983q2	1984q1
Iceland	1995q4	1996q4	1989q2	1990q1	1995q4	1996q1	1989q2	1990q1	1996q1	1997q1	1999q4	2000q3
Iceland	1998q3	1999q4	2001q2	2002q1	1998q3	1999q4	1993q3	1993q4	2001q2	2001q3	2008q2	2009q2
Iceland	2003q3	2006q1	2008q2	2009q3	2003q3	2006q1	2001q2	2002q1	2003q4	2007q3		
Iceland							2008q2	2009q3				

Table A6: Episodes of Capital Inflows (Continued)

Country	Total				Debt				Equity			
	SURGES		STOPS		SURGES		STOPS		SURGES		STOPS	
	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
Advanced Economies												
Ireland	1986q4	1987q3	1991q3	1992q2	1986q4	1987q2	1991q3	1992q2	1987q2	1988q2	1986q4	1987q1
Ireland	1989q3	1990q2	2008q2	2009q3	1992q3	1993q4	2008q2	2009q4	1990q1	1992q1	1993q4	1994q3
Ireland	1992q3	1993q4			1995q3	1996q4			1996q4	1999q2	2001q2	2001q4
Ireland	1995q3	1996q3			1997q4	1998q3			2006q3	2007q2	2004q2	2005q1
Ireland	1997q4	1999q1			2003q1	2004q3					2008q2	2009q2
Ireland	2003q3	2004q2			2007q1	2007q3						
Ireland	2006q3	2007q3										
Ireland	2014q2	2014q4										
Italy	1990q3	1991q1	1982q2	1983q1	1990q2	1991q1	1982q2	1983q1	1987q3	1989q2	1986q3	1986q4
Italy	2002q4	2003q4	1991q4	1993q3	1999q4	2000q1	1991q4	1993q3	1995q4	1996q3	1990q1	1990q2
Italy	2005q2	2006q1	2000q4	2002q3	2003q1	2003q3	2000q4	2002q2	2001q1	2001q3	1991q3	1991q4
Italy	2010q4	2011q3			2005q1	2005q4			2005q4	2006q3	1994q4	1995q1
Italy					2010q4	2011q3					1999q2	2000q1
Italy											2005q2	2005q3
Japan	1986q2	1987q3	1990q4	1993q1	1986q3	1987q4	1982q4	1983q1	1988q3	1989q3	1984q2	1985q1
Japan	1993q4	1995q1	1998q1	1999q1	1993q4	1995q4	1990q4	1991q4	1999q2	2000q1	1986q3	1987q4
Japan	2009q4	2011q1	2008q3	2009q3	2000q1	2001q1	1998q1	1999q4	2009q4	2010q3	2000q2	2001q1
Japan					2010q3	2011q1	2008q4	2009q3	2013q1	2013q4	2008q1	2008q4
Netherlands	1997q4	1998q4	1981q1	1982q3	1997q4	1998q3	1981q1	1982q3	1986q2	1987q2	1981q4	1982q3
Netherlands	2005q2	2006q2	1990q4	1991q4	2006q4	2007q3	1991q1	1992q1	1988q3	1989q2	1987q3	1988q2
Netherlands			2002q1	2002q4	2010q2	2010q4	2007q4	2009q3	1995q4	1996q4	2014q2	2014q4
Netherlands			2008q1	2009q3					1998q4	1999q4		
Netherlands									2005q2	2006q2		
Netherlands									2012q1	2013q1		
New Zealand	1986q3	1987q2	1987q3	1988q3	1986q3	1987q2	1987q3	1988q3	1992q3	1993q3	1991q3	1992q2
New Zealand	2000q2	2001q1	1996q4	1997q2	1996q4	1997q3	1998q2	1999q2	2000q2	2001q1	1996q3	1997q2
New Zealand	2006q3	2007q3	1998q3	1999q2	2000q4	2001q4	2008q2	2009q2	2006q4	2007q2	2001q2	2002q2
New Zealand			2008q2	2009q3							2009q2	2010q1
Norway	1982q3	1982q4	1983q3	1983q4	1982q3	1983q2	1981q1	1981q4	1986q2	1987q1	2001q4	2003q1
Norway	1984q3	1985q3	1988q3	1989q2	1984q3	1985q3	1988q3	1989q4	1998q1	1998q3	2008q1	2008q4
Norway	1992q3	1993q2	1991q3	1992q2	1995q2	1997q1	1997q4	1998q1	2009q3	2010q1		
Norway	1996q4	1997q1	1997q4	1998q1	2002q2	2003q2	2001q3	2002q1				
Norway	2000q3	2000q4	2001q3	2002q1	2006q1	2007q1	2007q4	2009q4				
Norway	2002q4	2003q2	2007q4	2009q4								
Norway	2005q4	2007q1										
Portugal	1981q2	1982q3	1983q4	1984q3	1981q2	1982q3	1983q4	1984q3	1987q3	1990q3	1992q4	1993q3
Portugal	1988q4	1990q2	1992q3	1993q2	1989q1	1989q4	1992q3	1992q4	1996q2	1997q1	1999q1	1999q4
Portugal	1994q3	1995q3	2002q4	2003q1	1994q3	1995q3	2002q4	2003q3	2003q1	2004q1	2002q2	2002q4
Portugal	2000q1	2000q4	2004q3	2005q2	2006q1	2006q2	2005q1	2005q2			2007q3	2008q2
Portugal	2003q4	2004q2	2010q3	2011q4	2009q3	2010q3	2008q3	2009q2				
Portugal	2009q4	2010q2					2010q4	2011q4				
Spain	1987q1	1988q2	1985q2	1986q2	1987q2	1988q2	1985q2	1986q2	1985q4	1987q4	1991q3	1992q2
Spain	1990q4	1991q3	1994q1	1995q1	1990q4	1991q3	1994q1	1995q1	1989q2	1990q1	1994q1	1995q1
Spain	1993q2	1993q4	2001q2	2002q2	1993q2	1993q4	2001q3	2002q2	1998q1	1998q4	2001q2	2002q3
Spain	2000q3	2001q1	2008q1	2009q4	2003q3	2004q2	2007q3	2009q3	2000q2	2001q1		
Spain	2014q2	2014q4			2005q3	2006q2			2007q4	2008q3		
Spain					2014q2	2014q4						
Sweden	1985q3	1987q3	1983q4	1984q3	1985q3	1987q3	1991q1	1992q1	1982q3	1983q4	1984q1	1984q4
Sweden	1989q2	1990q4	1991q1	1992q2	1989q2	1990q4	2002q1	2002q4	1991q1	1991q4	1987q2	1988q1
Sweden	2004q4	2005q3	1997q1	1997q3			2008q4	2009q3	1998q2	2000q1	1992q1	1993q1
Sweden			2008q4	2009q3					2014q1	2014q2	2009q3	2010q2
United Kingdom	1980q1	1980q2	1991q3	1992q1	1980q1	1980q2	1991q3	1992q1	1980q1	1980q4	1981q3	1981q4
United Kingdom	1985q3	1987q2	1994q1	1994q4	1985q4	1987q2	1998q1	1998q4	1985q2	1988q2	1990q4	1992q1
United Kingdom	1992q2	1993q4	2001q3	2002q2	1992q2	1993q2	2002q1	2002q2	1998q3	1999q3	2001q1	2002q1
United Kingdom	2000q3	2000q4	2008q1	2009q2	2000q3	2001q2	2008q1	2009q2			2008q4	2009q3
United Kingdom	2007q2	2007q4			2007q2	2007q4						
United States	1982q1	1982q3	1982q4	1983q3	1982q1	1982q3	1983q2	1983q3	1980q1	1981q1	1982q3	1983q2
United States	1986q1	1986q4	1989q4	1990q4	1993q4	1994q3	1989q2	1990q1	1986q1	1987q3	1987q4	1988q4
United States	1993q3	1994q3	1997q4	1999q1	1997q1	1997q3	1997q4	1999q3	1993q2	1994q1	1990q3	1991q1
United States	1997q1	1997q3	2001q3	2002q2	2004q2	2004q4	2007q3	2009q2	1999q2	2000q1	2001q3	2002q3
United States	1999q4	2000q3	2007q3	2009q2	2006q4	2007q2					2008q3	2009q3
United States	2006q4	2007q2										

Table A6: Episodes of Capital Inflows (Continued)

Country	Total				Debt				Equity			
	SURGES		STOPS		SURGES		STOPS		SURGES		STOPS	
	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
Emerging Economies												
Argentina	1990q3	1992q3	1982q4	1983q1	1990q4	1992q3	1982q4	1983q1	1990q4	1991q3	1982q1	1982q4
Argentina			1989q2	1990q2			1988q4	1990q3	1992q4	1994q2	1987q2	1988q1
Argentina			2000q4	2002q2			1999q1	1999q3	1999q2	1999q4	1998q3	1999q1
Argentina			2008q2	2009q3			2001q3	2002q2	2008q1	2008q3	2008q4	2010q1
Argentina							2008q2	2009q3				
Bangladesh	1989q1	1989q4	1982q4	1983q3	1989q1	1989q4	1982q4	1983q3	1983q1	1983q3	1983q4	1984q3
Bangladesh	1998q1	1998q3	1991q3	1992q1	2009q4	2010q2	1991q3	1992q1	1986q3	1987q3	1985q4	1986q2
Bangladesh	2003q4	2004q1	2010q3	2011q2	2012q2	2013q1	1999q1	1999q2	1992q2	1994q4	1995q3	1997q2
Bangladesh	2005q1	2005q2					2002q4	2003q1	1997q3	1998q3	2008q1	2008q3
Bangladesh	2010q1	2010q2					2005q4	2006q1	2003q3	2004q3	2009q3	2010q1
Bangladesh	2012q2	2013q2							2012q2	2013q2		
Bolivia	1996q1	1996q3	1999q1	2001q2	2001q4	2002q4	1999q4	2000q1	1995q2	1996q3	2000q4	2001q3
Bolivia	1997q4	1998q4	2006q3	2007q1	2008q1	2008q3	2006q2	2007q2	1997q4	1998q3	2003q1	2003q4
Bolivia	2007q2	2008q4	2014q3	2014q4			2014q3	2014q4	2006q4	2007q3	2014q2	2014q4
Bolivia									2013q4	2014q1		
Brazil	1990q2	1991q1	1982q4	1983q4	1990q2	1991q1	1982q4	1983q4	1987q4	1989q1	1980q4	1981q2
Brazil	1992q2	1992q3	1994q4	1995q2	1995q3	1996q1	1996q2	1997q2	1993q4	1994q3	1983q3	1984q2
Brazil	1994q1	1994q3	1999q1	1999q2	2005q4	2007q3	1999q1	1999q3	2007q1	2008q1	1989q2	1990q2
Brazil	1995q3	1996q2	2008q1	2009q3			2008q2	2009q3			1994q4	1995q3
Brazil	2006q3	2007q4									2001q3	2003q2
Brazil											2008q4	2009q2
Chile	2005q4	2006q3	2000q2	2001q1	2005q3	2006q2	2008q4	2009q3	1993q4	1995q1	1998q3	1999q1
Chile	2007q4	2008q3	2008q4	2009q3	2008q1	2008q3			1996q3	1997q3	2000q2	2000q4
Chile			2013q2	2014q1					2007q4	2008q1	2013q2	2014q1
Chile									2011q4	2012q3		
Colombia	2005q4	2006q3	1998q1	1999q3	2006q3	2007q2	1997q4	1999q3	2004q2	2006q4	1998q2	1999q2
Colombia	2010q4	2011q2			2010q2	2010q3	2008q1	2008q4	2011q2	2012q2		
Colombia							2012q1	2013q1				
Croatia	2002q4	2003q4	1998q4	1999q2	2002q4	2003q4	1998q4	1999q1	1999q4	2000q2	1999q2	1999q3
Croatia			2004q4	2005q3	2013q4	2014q3	2010q3	2010q4	2006q3	2007q3	2000q3	2001q3
Croatia			2010q2	2011q1			2012q1	2012q2	2014q2	2014q4	2009q4	2011q2
Czech Republic	2002q3	2003q1	2008q4	2009q3	2004q2	2005q1	2005q4	2006q3			2003q2	2004q1
Czech Republic					2007q3	2008q3	2008q4	2009q3				
Estonia	1997q4	1998q1	1998q2	1999q3	1997q4	1998q1	1998q2	1999q3	1998q4	1999q2	1999q3	2000q3
Estonia	2003q1	2005q1	2008q1	2009q3	2004q2	2005q1	2008q2	2009q4	2003q3	2004q1	2008q1	2009q3
Estonia	2007q1	2007q4							2005q2	2005q3		
Estonia									2007q1	2007q4		
Hungary	2002q4	2003q4	1996q4	1997q1	2002q4	2003q4	1996q1	1996q4	1995q4	1996q3	2009q3	2010q2
Hungary	2005q1	2005q3	2002q2	2002q3			2002q1	2002q3	2004q1	2005q2		
Hungary	2006q3	2008q1	2009q3	2010q2			2009q1	2010q1	2006q1	2008q1		
India	1982q2	1982q3	1989q4	1990q4	1982q2	1982q3	1989q4	1990q4	1991q1	1994q4	2008q2	2009q2
India	1984q1	1985q2	1991q3	1992q1	1984q1	1985q2	1991q3	1992q1	2003q3	2004q2		
India	1987q1	1987q3	2008q2	2009q3	1987q1	1987q3	2008q2	2009q3	2006q4	2008q1		
India	1993q4	1994q4					1996q2	1997q2				
India	1996q2	1997q1					2004q4	2005q3				
India	2003q3	2005q3					2006q4	2008q1				
India	2006q4	2008q1										
Indonesia	1990q3	1991q2	1997q4	1998q3	1991q1	1991q2	1993q2	1993q4	1988q1	1988q3	1997q4	1998q3
Indonesia	1995q2	1996q2	2006q4	2007q1	1995q4	1996q1	1997q4	1998q3	1990q3	1991q2	2006q3	2007q2
Indonesia	2005q4	2006q1	2009q1	2009q3	2005q4	2006q1	2011q3	2012q2	1993q2	1994q2		
Indonesia	2009q4	2010q4	2012q1	2012q2	2009q4	2010q3			1995q2	1996q2		
Indonesia									2010q3	2011q2		
Israel	1989q3	1990q3	1983q4	1984q4	1989q3	1990q3	1983q4	1984q2	1980q4	1982q2	1984q2	1985q1
Israel	1999q1	2000q1	1988q3	1989q2	1999q2	1999q4	1988q3	1989q2	1983q2	1984q1	1988q4	1989q2
Israel	2006q1	2006q4	1998q3	1998q4	2009q4	2010q4	2008q2	2009q1	1989q3	1990q3	1998q1	1998q4
Israel	2012q4	2013q4	2001q2	2002q2			2011q3	2012q3	1995q2	1996q1	2001q1	2002q2
Israel			2011q4	2012q3					1999q3	2000q4	2007q3	2007q4
Israel									2006q1	2006q4		

Table A6: Episodes of Capital Inflows (Continued)

Country	Total				Debt				Equity			
	SURGES		STOPS		SURGES		STOPS		SURGES		STOPS	
	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
Emerging Economies												
Jordan	1991q2	1992q1	1992q2	1993q3	1991q2	1992q1	1992q2	1993q3	1997q1	1998q1	1982q4	1983q3
Jordan	2004q4	2005q4	2007q3	2008q2	2004q3	2005q3	2003q1	2004q2	2000q1	2000q3	2000q4	2001q4
Jordan	2013q1	2013q4			2007q1	2007q2	2008q1	2008q4	2005q3	2006q4	2007q1	2007q4
Korea	1988q1	1989q1	1986q3	1987q4	1988q1	1989q1	1986q3	1987q4	1981q4	1982q2	1990q3	1991q2
Korea	1994q3	1995q4	1997q2	1998q3	1994q3	1995q3	1997q3	1998q3	1985q1	1985q2	1994q4	1995q2
Korea	2006q2	2007q2	2008q1	2009q2	2006q2	2007q2	2008q3	2009q3	1986q2	1987q3	2000q4	2002q4
Korea	2009q3	2010q2							1988q3	1989q2	2007q4	2008q2
Korea									1992q1	1994q1		
Korea									1996q1	1996q2		
Korea									1999q2	2000q3		
Korea									2003q3	2004q2		
Korea									2009q1	2010q1		
Latvia	2003q3	2005q1	1998q3	1999q2	1999q4	2000q2	1998q4	1999q1	2004q2	2005q3	2008q2	2009q4
Latvia	2006q2	2007q4	2008q3	2009q3	2003q3	2004q4	2008q3	2009q3	2006q2	2007q3		
Latvia					2006q2	2007q4						
Lithuania	2004q2	2004q3	1999q2	2000q1	2003q3	2004q2	1998q4	1999q3	1998q4	1999q1	1999q2	2000q2
Lithuania	2005q4	2008q1	2000q4	2001q2	2007q2	2008q1	2008q2	2009q4	2006q4	2007q3	2009q1	2010q2
Lithuania			2008q2	2009q4					2011q1	2011q3		
Mexico	1989q2	1991q2	1994q4	1995q4	1989q2	1990q4	1994q2	1995q4	1988q3	1992q1	1992q4	1993q2
Mexico	2007q3	2008q2	2008q3	2009q3	1993q2	1993q3			1993q4	1994q3	1994q4	1995q3
Mexico					2005q1	2005q2			2001q3	2002q2	2008q4	2009q2
Mexico					2007q3	2008q2			2012q4	2014q1		
Moldova	2006q4	2008q3	2008q4	2010q1	2004q1	2004q3	2009q1	2009q4	2005q1	2005q4	2009q2	2010q2
Moldova					2007q3	2008q2			2007q1	2008q3		
Pakistan	1985q3	1986q2	1994q4	1995q3	1985q3	1986q4	1991q4	1992q2	1991q4	1992q4	1982q3	1983q3
Pakistan	1988q2	1989q1	1997q2	1999q2	1988q2	1989q1	1998q3	1999q2	1994q3	1995q1	1995q2	1996q1
Pakistan	1992q4	1993q3	2008q2	2009q2	1992q3	1993q3	2008q2	2009q2	2002q1	2003q2	2007q4	2008q4
Pakistan	2001q1	2001q4			2001q1	2001q4	2010q3	2010q4	2004q4	2007q3		
Pakistan	2005q1	2007q3			2014q1	2014q4			2012q4	2014q4		
Pakistan	2013q1	2014q4										
Peru	1990q4	1992q3	1983q3	1984q3	1990q4	1992q3	1983q3	1984q3	1992q4	1995q1	1982q4	1983q3
Peru	1994q2	1995q1	1998q4	1999q3	1997q3	1997q4	1992q4	1993q4	2005q3	2006q2	1990q3	1992q3
Peru	2006q4	2008q2	2008q3	2009q3	2006q3	2008q1	1998q4	1999q3	2007q3	2008q2	2009q1	2009q4
Peru			2013q4	2014q3			2005q2	2006q2	2013q4	2014q3		
Peru							2008q4	2009q3				
Philippines	1994q2	1994q3	1983q2	1984q2	1996q1	1997q1	1983q2	1984q2	1986q4	1989q1	1989q2	1990q2
Philippines	1996q1	1997q1	1992q1	1992q2	2007q1	2007q4	1997q2	1998q4	1993q4	1994q3	1997q2	1998q1
Philippines	2005q2	2005q4	1997q2	1998q3			2006q2	2006q4	1996q1	1997q1	2007q4	2009q1
Philippines	2006q4	2007q3	2006q1	2006q3			2008q1	2009q1	2005q1	2005q4		
Philippines			2007q4	2009q1					2006q4	2007q3		
Poland	2003q4	2004q4	1996q4	1997q1	1997q2	1998q2	1996q2	1997q1	1991q1	1994q2	2001q4	2002q3
Poland	2007q1	2008q2	2001q4	2002q3	2003q4	2004q3	2001q4	2002q3	1995q3	1996q3	2008q3	2009q3
Poland			2008q3	2009q3	2007q2	2008q2	2008q3	2009q3	2004q1	2005q1		
Poland									2006q4	2007q3		
Poland									2014q3	2014q4		
Romania	1996q4	1997q3	2008q3	2010q1	1996q4	1997q3	2008q3	2009q4	1997q2	1998q2	1999q4	2000q3
Romania	2000q4	2001q2			2004q4	2005q4			2004q1	2005q1	2007q3	2008q3
Romania	2004q1	2005q3			2007q1	2008q2			2006q4	2007q2	2009q2	2010q2
Romania	2006q4	2007q4										
Russia	2007q1	2008q1	2008q4	2009q3	2007q2	2008q1	2006q3	2006q4	2002q4	2003q3	2008q4	2009q4
Russia			2014q1	2014q4			2008q2	2009q3	2004q4	2005q3	2013q1	2013q3
Russia							2014q1	2014q4	2006q4	2007q2		
Russia									2007q4	2008q1		
Russia									2013q4	2014q4		
Singapore	1995q2	1996q1	1997q4	1998q4	1997q1	1997q3	1997q4	1998q4	1995q1	1996q2	2002q3	2003q2
Singapore	1997q1	1997q3	2008q1	2009q2	2006q4	2008q1	2008q4	2009q4	2003q3	2004q4	2008q2	2009q1
Singapore	2006q4	2007q4			2013q3	2013q4	2012q1	2012q3			2014q3	2014q4
Slovakia	2004q3	2005q2	1998q4	1999q4	2005q1	2005q3	1998q4	1999q4	2000q3	2001q2	2003q2	2004q2
Slovakia	2013q2	2014q1	2006q1	2006q4	2013q2	2014q1	2005q4	2006q4	2002q3	2003q1	2009q2	2010q1
Slovakia			2010q1	2010q4			2010q2	2010q4	2011q4	2012q2		

Table A6: Episodes of Capital Inflows (Continued)

Country	Total				Debt				Equity			
	SURGES		STOPS		SURGES		STOPS		SURGES		STOPS	
	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
Emerging Economies												
Slovenia	2002q3	2003q3	1997q4	1998q4	2003q1	2003q3	2008q3	2009q3	2001q1	2003q1	2003q2	2004q2
Slovenia	2007q1	2007q4	2008q3	2009q3	2004q4	2006q2					2009q1	2010q1
Slovenia					2007q1	2007q4						
South Africa	1994q3	1995q4	1998q2	1999q2	1991q3	1992q3	1993q2	1993q4	1992q3	1993q3	1991q3	1992q2
South Africa	1997q2	1998q1	2008q3	2009q2	1997q1	1997q4	1998q1	1999q2	1995q2	1995q4	2007q1	2007q2
South Africa	2003q4	2006q2			2003q3	2004q1	2008q2	2009q3	1997q2	1998q2		
South Africa					2006q3	2007q1			2004q1	2006q2		
South Africa					2009q4	2010q3						
Sri Lanka	1982q3	1983q2	1983q3	1984q4	1982q4	1983q2	1983q3	1984q4	1987q3	1988q2	1989q1	1989q4
Sri Lanka	1989q3	1990q3	1994q2	1994q3	1989q3	1990q3	1994q1	1994q3	1992q2	1994q1	1994q4	1995q4
Sri Lanka	2011q1	2013q2	1998q3	1999q1	1994q4	1995q2	2001q1	2002q1	1997q3	1998q2	2009q4	2010q4
Sri Lanka			2001q2	2002q1	2000q1	2000q4	2007q4	2008q2	2006q3	2007q2		
Sri Lanka			2008q1	2008q2	2010q1	2010q2			2011q3	2012q4		
Sri Lanka			2010q3	2010q4	2011q2	2013q2						
Taiwan	1986q4	1987q2	1988q2	1989q1	1986q4	1987q2	1988q2	1989q1	1987q3	1988q1	1988q2	1989q1
Taiwan	1999q2	2000q2	2001q1	2001q2	1996q3	1997q3	1995q4	1996q2	1989q2	1990q1	1994q4	1995q3
Taiwan	2003q3	2004q2	2005q1	2005q2	2002q1	2002q4	2005q1	2005q3	1993q2	1994q3	1997q2	1998q1
Taiwan	2009q3	2010q3	2008q4	2009q2	2004q1	2004q2	2009q1	2009q3	1995q4	1996q3	2007q4	2009q1
Taiwan									1999q1	2000q2		
Taiwan									2003q3	2004q2		
Taiwan									2009q2	2010q2		
Thailand	1987q4	1990q2	1992q1	1992q4	1988q2	1991q4	1982q1	1982q2	1986q4	1990q2	1985q4	1986q1
Thailand	1995q2	1996q1	1996q2	1998q2	1995q2	1996q1	1986q3	1986q4	1997q3	1998q2	1990q3	1991q4
Thailand	2004q3	2006q1	2007q1	2007q4	2004q3	2005q2	1992q1	1993q1	2003q3	2004q2	2008q2	2009q2
Thailand			2008q3	2009q3	2009q4	2011q1	1996q2	1998q2	2005q1	2006q1		
Thailand							2007q1	2007q4	2012q4	2013q1		
Thailand							2008q4	2009q3				
Turkey	1990q1	1990q4	1994q1	1995q1	1990q1	1990q4	1994q1	1995q1	1999q3	2000q3	1991q2	1991q3
Turkey	1992q3	1993q4	2000q4	2001q4	1992q3	1993q4	2000q4	2001q4	2001q2	2001q4	1993q2	1993q3
Turkey	2000q1	2000q3	2007q4	2009q4	2000q1	2000q3	2007q3	2008q1	2003q3	2006q3	1995q1	1995q4
Turkey					2010q1	2011q2	2008q4	2009q4			2002q1	2003q2
Turkey											2008q1	2010q1
Ukraine	2004q1	2008q2	2008q3	2010q1	2004q1	2005q2	2008q4	2010q1	2003q2	2004q2	2014q1	2014q4
Ukraine					2006q4	2008q1			2005q4	2006q3		
Venezuela	1996q3	1998q1	2006q1	2006q4	2005q1	2005q4	2006q1	2006q4	1996q2	1998q1	1998q2	1999q2
Venezuela	2005q1	2005q4	2012q2	2012q3	2007q1	2008q1	2012q1	2012q3			2009q2	2010q1
Venezuela	2007q1	2008q1										

Notes: "Surges" and "stops" are identified following Forbes and Warnock (2012a and 2012b). Normal episode refers to the absence of either extreme episode. Dating of extreme episodes following the identification method discussed in Section 4.

Appendix 4: Transitional Likelihoods and State-Dependence Variables

Table A7: Transitional Likelihoods, Total Gross Inflows

Country	Normal to Normal	Normal to Surge	Normal to Stop	Surge to Normal	Surge to Surge	Surge to Stop	Stop to Normal	Stop to Surge	Stop to Stop
Advanced Economies									
Australia	90.24	8.54	1.22	15.15	75.76	9.09	12.50	4.17	83.33
Austria	94.55	3.64	1.82	21.05	78.95	0.00	20.00	0.00	80.00
Canada	93.46	3.74	2.80	18.75	75.00	6.25	25.00	0.00	75.00
Denmark	93.20	1.94	4.85	14.29	71.43	14.29	23.08	0.00	76.92
Finland	87.50	7.29	5.21	35.00	65.00	0.00	25.00	0.00	75.00
France	92.93	4.04	3.03	18.75	75.00	6.25	19.05	0.00	80.95
Germany	91.11	5.56	3.33	17.39	73.91	8.70	19.23	0.00	80.77
Greece	92.50	5.00	2.50	15.38	73.08	11.54	11.54	11.54	76.92
Iceland	90.80	4.60	4.60	15.38	84.62	0.00	21.05	0.00	78.95
Ireland	87.88	9.09	3.03	19.44	80.56	0.00	10.00	10.00	80.00
Italy	92.78	3.09	4.12	25.00	75.00	0.00	11.54	3.85	84.62
Japan	94.44	2.22	3.33	16.67	83.33	0.00	10.00	5.00	85.00
Netherlands	94.34	1.89	3.77	20.00	80.00	0.00	17.39	0.00	82.61
New Zealand	92.94	3.53	3.53	15.38	76.92	7.69	22.22	0.00	77.78
Norway	86.36	6.82	6.82	29.17	70.83	0.00	20.83	4.17	75.00
Portugal	89.77	6.82	3.41	14.29	78.57	7.14	25.00	0.00	75.00
Spain	92.63	5.26	2.11	11.11	77.78	11.11	17.39	0.00	82.61
Sweden	93.94	3.03	3.03	10.00	85.00	5.00	23.53	0.00	76.47
United Kingdom	95.00	3.00	2.00	13.64	77.27	9.09	17.65	5.88	76.47
United States	91.11	6.67	2.22	13.64	72.73	13.64	18.52	0.00	81.48
Emerging Economies									
Argentina	96.12	0.00	3.88	11.11	88.89	0.00	15.00	5.00	80.00
Bangladesh	92.31	5.77	1.92	29.41	64.71	5.88	27.27	0.00	72.73
Bolivia	92.73	3.64	3.64	13.33	80.00	6.67	7.14	7.14	85.71
Brazil	94.00	4.00	2.00	15.79	73.68	10.53	17.65	5.88	76.47
Chile	94.12	2.94	2.94	12.50	75.00	12.50	25.00	0.00	75.00
Colombia	94.44	3.70	1.85	28.57	71.43	0.00	14.29	0.00	85.71
Croatia	93.75	2.08	4.17	20.00	80.00	0.00	27.27	0.00	72.73
Czech Republic	96.49	1.75	1.75	33.33	66.67	0.00	25.00	0.00	75.00
Estonia	95.00	5.00	0.00	6.67	80.00	13.33	15.38	0.00	84.62
Hungary	90.74	3.70	5.56	20.00	80.00	0.00	25.00	12.50	62.50
India	89.66	8.05	2.30	17.14	80.00	2.86	21.43	0.00	78.57
Indonesia	91.76	3.53	4.71	25.00	75.00	0.00	27.27	9.09	63.64
Israel	94.00	1.00	5.00	21.05	78.95	0.00	10.00	15.00	75.00
Jordan	96.19	2.86	0.95	15.38	76.92	7.69	20.00	0.00	80.00
Korea	94.68	2.13	3.19	20.00	80.00	0.00	5.56	11.11	83.33
Latvia	92.86	4.76	2.38	14.29	85.71	0.00	25.00	0.00	75.00
Lithuania	89.47	5.26	5.26	8.33	83.33	8.33	21.43	0.00	78.57
Mexico	96.91	2.06	1.03	7.69	84.62	7.69	20.00	0.00	80.00
Moldova	97.83	2.17	0.00	0.00	87.50	12.50	16.67	0.00	83.33
Pakistan	88.75	7.50	3.75	14.71	85.29	0.00	16.67	0.00	83.33
Peru	93.41	3.30	3.30	10.53	84.21	5.26	22.22	0.00	77.78
Philippines	94.57	3.26	2.17	7.14	71.43	21.43	18.18	4.55	77.27
Poland	94.59	2.70	2.70	9.09	81.82	9.09	27.27	0.00	72.73
Romania	91.30	6.52	2.17	21.05	78.95	0.00	14.29	0.00	85.71
Russia	93.75	2.08	4.17	20.00	80.00	0.00	14.29	0.00	85.71
Singapore	95.65	4.35	0.00	8.33	75.00	16.67	18.18	0.00	81.82
Slovakia	90.70	4.65	4.65	25.00	75.00	0.00	23.08	0.00	76.92
Slovenia	93.88	4.08	2.04	22.22	77.78	0.00	20.00	0.00	80.00
SouthAfrica	93.94	4.55	1.52	9.52	85.71	4.76	22.22	0.00	77.78
Sri Lanka	93.41	1.10	5.49	11.11	83.33	5.56	26.32	5.26	68.42
Taiwan	92.86	2.38	4.76	23.53	76.47	0.00	27.27	9.09	63.64
Thailand	93.18	3.41	3.41	9.09	86.36	4.55	18.18	0.00	81.82
Turkey	94.12	4.41	1.47	7.69	76.92	15.38	15.79	0.00	84.21
Ukraine	97.14	2.86	0.00	0.00	94.44	5.56	14.29	0.00	85.71
Venezuela	94.44	3.70	1.85	12.50	81.25	6.25	16.67	16.67	66.67

Note: Calculations follow the identification method discussed in Section 4.

Table A8: Transitional Likelihoods, Debt Inflows

Country	Normal to Normal	Normal to Surge	Normal to Stop	Surge to Normal	Surge to Surge	Surge to Stop	Stop to Normal	Stop to Surge	Stop to Stop
Advanced Economies									
Australia	93.26	3.37	3.37	10.00	83.33	6.67	20.00	10.00	70.00
Austria	93.20	2.91	3.88	27.27	72.73	0.00	16.00	0.00	84.00
Canada	94.64	3.57	1.79	23.08	69.23	7.69	21.43	0.00	78.57
Denmark	91.75	2.06	6.19	14.29	78.57	7.14	24.00	4.00	72.00
Finland	91.92	4.04	4.04	23.53	70.59	5.88	20.00	5.00	75.00
France	93.33	2.86	3.81	25.00	75.00	0.00	21.05	0.00	78.95
Germany	87.50	6.82	5.68	29.17	70.83	0.00	18.52	0.00	81.48
Greece	94.44	3.33	2.22	10.53	73.68	15.79	17.39	8.70	73.91
Iceland	89.89	4.49	5.62	17.39	82.61	0.00	25.00	0.00	75.00
Ireland	91.78	5.48	2.74	21.43	78.57	0.00	9.09	9.09	81.82
Italy	92.23	4.85	2.91	29.41	70.59	0.00	15.79	0.00	84.21
Japan	93.02	3.49	3.49	17.39	82.61	0.00	15.79	5.26	78.95
Netherlands	95.37	2.78	1.85	18.18	72.73	9.09	15.00	0.00	85.00
New Zealand	94.32	3.41	2.27	15.38	76.92	7.69	20.00	0.00	80.00
Norway	89.41	4.71	5.88	18.52	81.48	0.00	16.67	4.17	79.17
Portugal	90.32	4.30	5.38	18.18	77.27	4.55	23.81	4.76	71.43
Spain	90.11	6.59	3.30	18.18	77.27	4.55	17.39	0.00	82.61
Sweden	96.26	1.87	1.87	6.25	87.50	6.25	23.08	0.00	76.92
United Kingdom	94.17	2.91	2.91	19.05	76.19	4.76	20.00	6.67	73.33
United States	93.07	4.95	1.98	18.75	68.75	12.50	18.18	0.00	81.82
Emerging Economies									
Argentina	95.05	0.00	4.95	12.50	87.50	0.00	17.39	4.35	78.26
Bangladesh	92.73	2.73	4.55	33.33	66.67	0.00	38.46	0.00	61.54
Bolivia	92.65	2.94	4.41	25.00	75.00	0.00	25.00	0.00	75.00
Brazil	94.12	2.94	2.94	13.33	80.00	6.67	21.05	0.00	78.95
Chile	97.40	2.60	0.00	14.29	71.43	14.29	25.00	0.00	75.00
Colombia	91.11	4.44	4.44	33.33	66.67	0.00	17.65	0.00	82.35
Croatia	91.84	4.08	4.08	22.22	77.78	0.00	50.00	0.00	50.00
Czech Republic	93.62	4.26	2.13	11.11	77.78	11.11	25.00	0.00	75.00
Estonia	95.92	2.04	2.04	16.67	66.67	16.67	15.38	0.00	84.62
Hungary	95.00	0.00	5.00	20.00	80.00	0.00	16.67	8.33	75.00
India	91.67	6.25	2.08	19.23	76.92	3.85	21.43	0.00	78.57
Indonesia	92.31	4.40	3.30	40.00	60.00	0.00	27.27	0.00	72.73
Israel	94.55	1.82	3.64	23.08	76.92	0.00	18.75	6.25	75.00
Jordan	96.04	1.98	1.98	18.18	72.73	9.09	12.50	6.25	81.25
Korea	95.05	1.98	2.97	20.00	80.00	0.00	12.50	6.25	81.25
Latvia	90.24	7.32	2.44	18.75	81.25	0.00	28.57	0.00	71.43
Lithuania	95.56	4.44	0.00	12.50	75.00	12.50	18.18	0.00	81.82
Mexico	94.90	4.08	1.02	26.67	73.33	0.00	14.29	0.00	85.71
Moldova	93.88	4.08	2.04	28.57	71.43	0.00	25.00	0.00	75.00
Pakistan	91.67	4.17	4.17	18.18	81.82	0.00	21.43	7.14	71.43
Peru	93.18	2.27	4.55	11.76	82.35	5.88	17.39	4.35	78.26
Philippines	96.97	1.01	2.02	0.00	77.78	22.22	15.00	5.00	80.00
Poland	94.20	2.90	2.90	14.29	78.57	7.14	15.38	7.69	76.92
Romania	96.08	3.92	0.00	13.33	80.00	6.67	16.67	0.00	83.33
Russia	95.45	0.00	4.55	0.00	80.00	20.00	9.09	9.09	81.82
Singapore	92.65	4.41	2.94	18.18	72.73	9.09	23.08	0.00	76.92
Slovakia	93.18	4.55	2.27	14.29	71.43	14.29	23.08	0.00	76.92
Slovenia	91.84	6.12	2.04	21.43	78.57	0.00	20.00	0.00	80.00
South Africa	90.32	6.45	3.23	21.05	73.68	5.26	13.33	6.67	80.00
Sri Lanka	92.94	4.71	2.35	15.38	76.92	7.69	17.65	5.88	76.47
Taiwan	92.94	2.35	4.71	28.57	71.43	0.00	23.08	7.69	69.23
Thailand	90.91	3.90	5.19	6.90	86.21	6.90	19.23	3.85	76.92
Turkey	92.06	4.76	3.17	10.53	78.95	10.53	16.67	5.56	77.78
Ukraine	92.86	4.76	2.38	16.67	83.33	0.00	16.67	0.00	83.33
Venezuela	96.67	1.67	1.67	11.11	77.78	11.11	14.29	14.29	71.43

Note: Calculations follow the identification method discussed in Section 4.

Table A9: Transitional Likelihoods, Equity Inflows

Country	Normal to Normal	Normal to Surge	Normal to Stop	Surge to Normal	Surge to Surge	Surge to Stop	Stop to Normal	Stop to Surge	Stop to Stop
Advanced Economies									
Australia	93.14	3.92	2.94	20.00	75.00	5.00	17.65	5.88	76.47
Austria	94.95	5.05	0.00	8.33	79.17	12.50	18.75	0.00	81.25
Canada	96.08	2.94	0.98	7.14	71.43	21.43	17.39	0.00	82.61
Denmark	94.95	4.04	1.01	8.33	83.33	8.33	23.08	0.00	76.92
Finland	91.67	4.17	4.17	15.38	84.62	0.00	21.43	7.14	71.43
France	90.43	4.26	5.32	18.18	81.82	0.00	25.00	0.00	75.00
Germany	91.58	4.21	4.21	16.67	79.17	4.17	20.00	5.00	75.00
Greece	94.62	3.23	2.15	14.29	85.71	0.00	11.11	5.56	83.33
Iceland	92.22	4.44	3.33	13.79	86.21	0.00	23.08	0.00	76.92
Ireland	89.23	4.62	6.15	13.79	86.21	0.00	22.22	5.56	72.22
Italy	91.51	2.83	5.66	21.05	78.95	0.00	35.71	7.14	57.14
Japan	92.47	4.30	3.23	17.65	76.47	5.88	22.22	0.00	77.78
Netherlands	93.00	5.00	2.00	17.24	79.31	3.45	10.00	10.00	80.00
New Zealand	94.25	2.30	3.45	16.67	75.00	8.33	17.65	5.88	76.47
Norway	95.69	2.59	1.72	30.00	70.00	0.00	20.00	0.00	80.00
Portugal	93.94	2.02	4.04	13.64	86.36	0.00	20.00	6.67	73.33
Spain	92.63	5.26	2.11	15.38	80.77	3.85	20.00	0.00	80.00
Sweden	93.94	4.04	2.02	10.00	80.00	10.00	23.53	0.00	76.47
United Kingdom	94.00	2.00	4.00	13.64	86.36	0.00	23.53	0.00	76.47
United States	92.71	3.13	4.17	15.00	80.00	5.00	21.74	0.00	78.26
Emerging Economies									
Argentina	93.88	3.06	3.06	17.65	76.47	5.88	17.65	5.88	76.47
Bangladesh	89.33	5.33	5.33	13.89	83.33	2.78	14.29	9.52	76.19
Bolivia	89.66	6.90	3.45	18.75	75.00	6.25	20.00	0.00	80.00
Brazil	93.62	3.19	3.19	6.67	80.00	13.33	22.22	0.00	77.78
Chile	88.52	6.56	4.92	23.53	76.47	0.00	30.00	0.00	70.00
Colombia	93.62	4.26	2.13	12.50	87.50	0.00	20.00	0.00	80.00
Croatia	90.00	5.00	5.00	10.00	80.00	10.00	14.29	7.14	78.57
Czech Republic	98.33	0.00	1.67	...	...	...	25.00	0.00	75.00
Estonia	90.91	9.09	0.00	16.67	66.67	16.67	16.67	0.00	83.33
Hungary	92.59	5.56	1.85	15.79	84.21	0.00	25.00	0.00	75.00
India	97.14	2.86	0.00	7.69	88.46	3.85	20.00	0.00	80.00
Indonesia	91.57	6.02	2.41	23.81	76.19	0.00	25.00	0.00	75.00
Israel	91.11	5.56	3.33	13.33	80.00	6.67	21.05	5.26	73.68
Jordan	97.03	2.97	0.00	7.14	78.57	14.29	23.08	0.00	76.92
Korea	84.72	11.11	4.17	19.51	78.05	2.44	21.05	0.00	78.95
Latvia	93.33	4.44	2.22	16.67	83.33	0.00	14.29	0.00	85.71
Lithuania	93.18	4.55	2.27	22.22	66.67	11.11	18.18	0.00	81.82
Mexico	93.75	3.75	2.50	10.00	86.67	3.33	20.00	10.00	70.00
Moldova	93.18	4.55	2.27	18.18	81.82	0.00	20.00	0.00	80.00
Pakistan	92.77	6.02	1.20	5.71	88.57	5.71	21.43	0.00	78.57
Peru	94.38	2.25	3.37	16.67	83.33	0.00	14.29	4.76	80.95
Philippines	94.19	5.81	0.00	7.41	81.48	11.11	20.00	0.00	80.00
Poland	87.93	8.62	3.45	13.79	86.21	0.00	22.22	0.00	77.78
Romania	88.89	6.67	4.44	15.38	76.92	7.69	21.43	0.00	78.57
Russia	82.86	14.29	2.86	25.00	68.75	6.25	11.11	0.00	88.89
Singapore	94.37	1.41	4.23	16.67	83.33	0.00	11.11	11.11	77.78
Slovakia	91.11	6.67	2.22	20.00	70.00	10.00	22.22	0.00	77.78
Slovenia	95.92	2.04	2.04	0.00	88.89	11.11	20.00	0.00	80.00
SouthAfrica	92.54	4.48	2.99	17.39	82.61	0.00	16.67	16.67	66.67
Sri Lanka	90.91	5.68	3.41	19.23	80.77	0.00	21.43	0.00	78.57
Taiwan	90.32	6.45	3.23	15.63	78.13	6.25	5.56	16.67	77.78
Thailand	92.13	5.62	2.25	13.33	83.33	3.33	23.08	0.00	76.92
Turkey	89.29	3.57	7.14	9.52	85.71	4.76	17.39	4.35	78.26
Ukraine	93.75	4.17	2.08	22.22	77.78	0.00	0.00	0.00	100.00
Venezuela	96.61	1.69	1.69	0.00	87.50	12.50	22.22	0.00	77.78

Notes: ... = data is unavailable. Calculations follow the identification method discussed in Section 4.

Table A10: State-Dependence Variables, Total Gross Inflows

Country	Duration Normal	Duration Surge	Duration Stop	Occurrence Normal	Occurrence Surge	Occurrence Stop
Advanced Economies						
Australia	59.29	23.57	17.14	42.86	38.10	19.05
Austria	79.29	13.57	7.14	53.85	30.77	15.38
Canada	77.14	11.43	11.43	50.00	25.00	25.00
Denmark	75.91	5.11	18.98	47.06	11.76	35.29
Finland	70.80	14.60	14.60	50.00	26.92	19.23
France	72.99	11.68	15.33	47.06	23.53	23.53
Germany	65.00	16.43	18.57	45.00	30.00	25.00
Greece	60.90	19.55	19.55	33.33	33.33	28.57
Iceland	66.17	19.55	14.29	50.00	22.22	22.22
Ireland	58.41	32.74	8.85	42.11	42.11	10.53
Italy	70.00	11.43	18.57	50.00	25.00	25.00
Japan	70.54	13.95	15.50	46.15	23.08	23.08
Netherlands	76.43	7.14	16.43	53.85	15.38	30.77
New Zealand	73.50	11.11	15.38	46.67	20.00	26.67
Norway	64.96	17.52	17.52	48.15	25.93	22.22
Portugal	64.96	20.44	14.60	45.45	27.27	22.73
Spain	69.34	13.87	16.79	41.18	29.41	23.53
Sweden	72.99	14.60	12.41	46.67	20.00	26.67
United Kingdom	72.14	15.71	12.14	40.00	33.33	26.67
United States	65.00	15.71	19.29	45.00	30.00	25.00
Emerging Economies						
Argentina	78.20	6.77	15.04	45.45	9.09	36.36
Bangladesh	78.95	12.78	8.27	47.37	31.58	15.79
Bolivia	64.71	17.65	17.65	36.36	27.27	27.27
Brazil	73.72	13.87	12.41	41.18	29.41	23.53
Chile	77.53	8.99	13.48	45.45	18.18	27.27
Colombia	79.71	10.14	10.14	50.00	25.00	12.50
Croatia	75.38	7.69	16.92	44.44	11.11	33.33
Czech Republic	89.23	4.62	6.15	50.00	16.67	16.67
Estonia	59.42	21.74	18.84	33.33	33.33	22.22
Hungary	70.51	19.23	10.26	46.15	23.08	23.08
India	64.23	25.55	10.22	47.62	33.33	14.29
Indonesia	76.11	14.16	9.73	47.06	23.53	23.53
Israel	72.14	13.57	14.29	43.75	25.00	31.25
Jordan	82.17	10.08	7.75	45.45	27.27	18.18
Korea	71.43	15.04	13.53	42.86	28.57	21.43
Latvia	66.15	21.54	12.31	44.44	22.22	22.22
Lithuania	60.00	18.46	21.54	45.45	18.18	27.27
Mexico	80.99	10.74	8.26	44.44	22.22	22.22
Moldova	77.05	13.11	9.84	40.00	20.00	20.00
Pakistan	60.15	26.32	13.53	47.37	31.58	15.79
Peru	71.32	14.73	13.95	46.67	20.00	26.67
Philippines	72.09	10.85	17.05	37.50	25.00	31.25
Poland	77.32	11.34	11.34	45.45	18.18	27.27
Romania	64.38	26.03	9.59	45.45	36.36	9.09
Russia	78.69	8.20	13.11	42.86	14.29	28.57
Singapore	75.27	12.90	11.83	40.00	30.00	20.00
Slovakia	67.69	12.31	20.00	45.45	18.18	27.27
Slovenia	72.46	13.04	14.49	44.44	22.22	22.22
South Africa	69.07	21.65	9.28	45.45	27.27	18.18
Sri Lanka	71.32	13.95	14.73	41.18	17.65	35.29
Taiwan	75.22	15.04	9.73	43.75	25.00	25.00
Thailand	66.92	16.54	16.54	46.67	20.00	26.67
Turkey	68.32	12.87	18.81	41.67	25.00	25.00
Ukraine	59.02	29.51	11.48	40.00	20.00	20.00
Venezuela	71.43	20.78	7.79	40.00	30.00	20.00

Note: Calculations follow the definition of “duration” and “occurrence” discussed in Section 4.

Table A11: State-Dependence Variables, Debt Inflows

Country	Duration Normal	Duration Surge	Duration Stop	Occurrence Normal	Occurrence Surge	Occurrence Stop
Advanced Economies						
Australia	64.29	21.43	14.29	38.89	27.78	33.33
Austria	74.29	7.86	17.86	53.33	20.00	26.67
Canada	80.71	9.29	10.00	50.00	28.57	21.43
Denmark	71.53	10.22	18.25	45.00	15.00	35.00
Finland	72.99	12.41	14.60	45.00	25.00	25.00
France	77.37	8.76	13.87	50.00	18.75	25.00
Germany	63.57	17.14	19.29	50.00	29.17	20.83
Greece	68.42	14.29	17.29	33.33	27.78	33.33
Iceland	67.67	17.29	15.04	50.00	20.00	25.00
Ireland	65.49	24.78	9.73	43.75	37.50	12.50
Italy	74.29	12.14	13.57	52.94	29.41	17.65
Japan	67.44	17.83	14.73	43.75	25.00	25.00
Netherlands	77.86	7.86	14.29	50.00	25.00	25.00
New Zealand	76.07	11.11	12.82	46.15	23.08	23.08
Norway	62.77	19.71	17.52	47.62	23.81	23.81
Portugal	68.61	16.06	15.33	45.45	22.73	27.27
Spain	66.42	16.79	16.79	45.00	30.00	20.00
Sweden	78.83	11.68	9.49	45.45	18.18	27.27
United Kingdom	74.29	15.00	10.71	43.75	31.25	25.00
United States	72.86	11.43	15.71	47.06	29.41	23.53
Emerging Economies						
Argentina	76.69	6.02	17.29	46.15	7.69	38.46
Bangladesh	83.46	6.77	9.77	50.00	16.67	27.78
Bolivia	80.00	9.41	10.59	45.45	18.18	27.27
Brazil	75.18	10.95	13.87	46.67	20.00	26.67
Chile	87.64	7.87	4.49	42.86	28.57	14.29
Colombia	66.67	8.70	24.64	45.45	18.18	27.27
Croatia	76.92	13.85	9.23	45.45	18.18	27.27
Czech Republic	73.85	13.85	12.31	44.44	22.22	22.22
Estonia	72.46	8.70	18.84	37.50	25.00	25.00
Hungary	78.21	6.41	15.38	44.44	11.11	33.33
India	70.80	18.98	10.22	47.37	31.58	15.79
Indonesia	81.42	8.85	9.73	50.00	25.00	18.75
Israel	79.29	9.29	11.43	50.00	21.43	28.57
Jordan	79.07	8.53	12.40	41.67	25.00	25.00
Korea	76.69	11.28	12.03	46.15	23.08	23.08
Latvia	64.62	24.62	10.77	45.45	27.27	18.18
Lithuania	70.77	12.31	16.92	37.50	25.00	25.00
Mexico	81.82	12.40	5.79	50.00	33.33	8.33
Moldova	81.97	11.48	6.56	50.00	25.00	12.50
Pakistan	72.18	17.29	10.53	44.44	27.78	22.22
Peru	68.99	13.18	17.83	43.75	18.75	31.25
Philippines	77.52	6.98	15.50	36.36	18.18	36.36
Poland	72.16	14.43	13.40	41.67	25.00	25.00
Romania	71.23	20.55	8.22	37.50	37.50	12.50
Russia	72.13	8.20	19.67	28.57	14.29	42.86
Singapore	74.19	11.83	13.98	46.15	23.08	23.08
Slovakia	69.23	10.77	20.00	40.00	20.00	30.00
Slovenia	72.46	20.29	7.25	50.00	30.00	10.00
South Africa	64.95	19.59	15.46	43.75	31.25	18.75
Sri Lanka	66.67	20.16	13.18	38.89	33.33	22.22
Taiwan	76.11	12.39	11.50	43.75	25.00	25.00
Thailand	58.65	21.80	19.55	42.11	21.05	31.58
Turkey	63.37	18.81	17.82	40.00	26.67	26.67
Ukraine	70.49	19.67	9.84	50.00	25.00	12.50
Venezuela	79.22	11.69	9.09	37.50	25.00	25.00

Note: Calculations follow definition of “duration” and “occurrence” discussed in Section 4.

Table A12: State-Dependence Variables, Equity Inflows

Country	Duration Normal	Duration Surge	Duration Stop	Occurrence Normal	Occurrence Surge	Occurrence Stop
Advanced Economies						
Australia	73.57	14.29	12.14	47.06	29.41	23.53
Austria	71.43	17.14	11.43	42.86	35.71	21.43
Canada	73.57	10.00	16.43	38.46	30.77	30.77
Denmark	72.99	17.52	9.49	42.86	28.57	21.43
Finland	70.07	19.71	10.22	44.44	27.78	22.22
France	69.34	16.06	14.60	50.00	20.00	25.00
Germany	68.57	17.14	14.29	47.37	26.32	26.32
Greece	69.92	16.54	13.53	38.46	30.77	23.08
Iceland	68.42	21.80	9.77	50.00	25.00	18.75
Ireland	58.41	25.66	15.93	44.44	22.22	27.78
Italy	76.43	13.57	10.00	50.00	20.00	30.00
Japan	72.87	13.18	13.95	47.06	23.53	23.53
Netherlands	71.43	20.71	7.86	43.75	37.50	18.75
New Zealand	75.21	10.26	14.53	42.86	21.43	28.57
Norway	85.40	7.30	7.30	50.00	25.00	16.67
Portugal	72.99	16.06	10.95	46.67	20.00	26.67
Spain	70.07	18.98	10.95	47.06	29.41	17.65
Sweden	72.99	14.60	12.41	43.75	25.00	25.00
United Kingdom	72.14	15.71	12.14	50.00	21.43	28.57
United States	69.29	14.29	16.43	47.06	23.53	29.41
Emerging Economies						
Argentina	74.44	12.78	12.78	43.75	25.00	25.00
Bangladesh	57.14	27.07	15.79	42.86	28.57	23.81
Bolivia	68.24	18.82	12.94	42.86	28.57	21.43
Brazil	69.34	10.95	19.71	41.18	17.65	35.29
Chile	69.66	19.10	11.24	50.00	25.00	18.75
Colombia	69.57	23.19	7.25	50.00	25.00	12.50
Croatia	61.54	16.92	21.54	36.36	27.27	27.27
Czech Republic	93.85	...	6.15	50.00	...	25.00
Estonia	65.22	17.39	17.39	41.67	33.33	16.67
Hungary	70.51	24.36	5.13	50.00	30.00	10.00
India	77.37	18.98	3.65	44.44	33.33	11.11
Indonesia	74.34	18.58	7.08	50.00	31.25	12.50
Israel	65.00	21.43	13.57	45.00	30.00	25.00
Jordan	79.07	10.85	10.08	36.36	27.27	27.27
Korea	54.89	30.83	14.29	46.15	34.62	15.38
Latvia	70.77	18.46	10.77	50.00	25.00	12.50
Lithuania	69.23	13.85	16.92	40.00	30.00	20.00
Mexico	66.94	24.79	8.26	42.86	28.57	21.43
Moldova	73.77	18.03	8.20	50.00	25.00	12.50
Pakistan	62.41	27.07	10.53	40.00	33.33	20.00
Peru	69.77	13.95	16.28	42.86	21.43	28.57
Philippines	67.44	20.93	11.63	40.00	33.33	20.00
Poland	59.79	30.93	9.28	46.67	33.33	13.33
Romania	63.01	17.81	19.18	46.15	23.08	23.08
Russia	57.38	26.23	16.39	42.86	35.71	14.29
Singapore	76.34	12.90	10.75	40.00	20.00	30.00
Slovakia	70.77	15.38	13.85	45.45	27.27	18.18
Slovenia	72.46	13.04	14.49	42.86	14.29	28.57
South Africa	70.10	23.71	6.19	46.15	30.77	15.38
Sri Lanka	68.99	20.16	10.85	50.00	27.78	16.67
Taiwan	55.75	28.32	15.93	36.84	36.84	21.05
Thailand	67.67	22.56	9.77	47.06	29.41	17.65
Turkey	56.44	20.79	22.77	43.75	18.75	31.25
Ukraine	78.69	14.75	6.56	42.86	28.57	14.29
Venezuela	77.92	10.39	11.69	42.86	14.29	28.57

Note: ... = data is unavailable. Calculations follow definition of "duration" and "occurrence" discussed in Section 4.

Appendix 5: Dataset on Domestic Factors

Table A13: Domestic Factors Variables, Explanations and Sources

Variable	Data	Source
Output Volatility	Standard deviation of annual GDP growth rate	World Economic Outlook Database April 2016, International Monetary Fund
Per Capita Income	Natural log value (multiplied by 10) of average annual real per capita income in constant US\$2010 prices	World Development Indicators, World Bank
Domestic Credit	Average annual domestic credit to private sector by banks as percent of nominal GDP	World Development Indicators, World Bank
Market Capitalization	Average annual market capitalization of listed companies as percent of nominal GDP	World Development Indicators, World Bank; World Federation of Exchanges, and national sources accessed through CEIC.
Trade Openness	Merchandise trade as ratio of nominal GDP is the annual average of the sum of merchandise exports and imports divided by nominal GDP in percent	World Development Indicators, World Bank. Data for Taiwan is sourced from the National Statistics Office.
Financial Openness	De facto financial openness measure using annual average values of the sum of total foreign assets and liabilities as percent of nominal GDP.	External Wealth of Nations (Lane and Milesi-Ferretti, 2007)
Capital Openness	De jure capital openness measure is an average annual normalized index where a higher value pertains to less capital account restrictions with the rest of the world. Values are multiplies by 100	Chinn and Ito (2006)
Net Foreign Assets	Average annual values of total foreign assets minus total foreign liabilities as percent of nominal GDP	External Wealth of Nations (Lane and Milesi-Ferretti, 2007)
Foreign Reserves	Average annual values of foreign currency reserves as percent of nominal GDP	External Wealth of Nations (Lane and Milesi-Ferretti, 2007)
Foreign Debt Liabilities	Average annual values of foreign debt liabilities as percent of nominal GDP	External Wealth of Nations (Lane and Milesi-Ferretti, 2007)

Notes: Average annual values covers from 1980 to 2014. However, in cases where data are unavailable, the average values are computed using the earliest year with available data.

References:

- Fernandez-Arias, E. 1996. The New Wave of Private Capital Inflows: Push or Pull? *Journal of Development Economics*, 48: 389-418.
- Ballen, J. and R. Freeman. 1986. *The Black Youth Employment Crisis*. In Handbook in Labour Economics edited by R. Freeman and H. Holzer. University of Chicago Press.
- Blau, D. 1998. Labour Force Dynamics of Older Married Couples. *Journal of Labour Economics*, 3(3): 595-629.
- Bluedorn, J. C., R. Duttagupta, J. Guajardo, and P. Topalova. 2013. Capital Flows are Frickle: Anytime, Anywhere. *IMF Working Paper No. 8/22*.
- Bradley, S., R. Crouchley, and R. Oskrochi. 2003. Social Exclusion and Labour Market Transitions: A Multi-State Multi-Spell Analysis Using the BHPS. *Labour Economics*, 10: 659-679.
- Caballero, J. 2014. Do Surges in International Capital Inflows Influence the Likelihood of Banking Crises? *The Economic Journal*, doi:10.1111/eoj.12172.
- Calderon, C. and M. Kubota. 2013. Sudden Stops: Are Global and Local Investors Alike? *Journal of International Economics*, 89 (1): 122-142.
- Calvo, G. 1998. Capital Flows and Capital-Market Crises: The Simple Economics of Sudden Stops. *Journal of Applied Economics*, 1: 35-54.
- Calvo, G., L. Leiderman, and C. Reinhart. 1993. Capital Inflows and Real Exchange Rate Appreciation in Latin America: The Role of External Factors. *IMF Staff Papers*, 40(1): 108-151.
- Calvo, G., L. Leiderman, and C. Reinhart. 1996. Inflows of Capital to Developing Countries in 1990s. *Journal of Economic Perspectives*, 10(2): 123-139.
- Calvo, G., A. Izquierdo, and L.-F. Mejia. 2008. Systemic Sudden Stops: The Relevance of Balance-Sheet Effects and Financial Integration. *NBER Working Paper Series 14026*.
- Calvo, G., A. Izquierdo, and E. Talvi. 2006. Sudden Stops and Phoenix Miracles in Emerging Markets. *American Economic Review*, 96(2): 405-410.
- Catão, L. and G. M. Milesi-Ferretti. 2014. External Liabilities and Crises. *Journal of International Economics*, 94 (1): 18-32.
- Cavallo, E. and J. Frankel. 2008. Does Openness to Trade Make Countries More Vulnerable to Sudden Stops, or Less? Using Gravity to Establish Causality. *Journal of International Money and Finance*, 27: 1430-1452.
- Chinn, M. and H. Ito. 2006. What Matters for Financial Development? Capital Controls, Institutions, and Interactions. *Journal of Development Economics*, 81(1): 163-192.
- Chuhan, P., S. Claessens, and N. Mamingi. 1998. Equity and Bond Flows to Latin America and Asia: The Role of Global and Country Factors. *Journal of Development Economics*, 55: 439-463.
- Crystallin M., L. Efremidze, S. Kim, W. Nugroho, O. Sula, and T. Willett. 2015. How Common Are Capital Flows Surges? How They Are Measured Matters A Lot. *Open Economics Review*, 26: 663-682.
- Diebold, F. and G. Rudebusch. 1990. A Nonparametric Investigation of Duration Dependence in the American Business Cycle. *Journal of Political Economy*, 98(3): 596-616.
- Faucette J., A. Rothenberg, and F. Warnock. 2005. Outflows-Induced Sudden Stops. *The Journal of Policy Reform*, 8(2): 119-129.
- Filardo, A. 1994. Business-Cycle Phases and Their Transitional Dynamics. *Journal of Business and Economics Statistics*, 12(3): 299-308.
- Filardo, A. and S. Gordon. 1998. Business Cycle Durations. *Journal of Econometrics*, 85: 99-123.
- Forbes, K. and F. Warnock. 2012a. Capital Flow Waves, Surges, Stops, Flights and Retrenchment. *Journal of International Economics*, 88 (2): 235-251.
- Forbes, K. and F. Warnock. 2012b. Debt- and Equity-Led Capital Flows Episodes. *NBER Working Paper Series No. 18329*.
- Fratzscher, M. 2012. Capital Flows, Push versus Pull Factors and the Global Financial Crisis. *Journal of International Economics*, 88(2): 341-365.

- Ghosh, A., J. Kim, M. Qureshi, and J. Zalduendo. 2014. Surges. *Journal of International Economics*, 92(2): 266-285.
- Hamilton, J. 1989. A New Approach to the Economic Analysis of Nonstationary Time Series and the Business Cycle. *Econometrica*, 57(2): 357-384.
- Heckman, J. and G. Borjas. 1980. Does Unemployment Cause Future Unemployment? Definitions, Questions and Answers from a Continuous Time Model of Heterogeneity and State Dependence. *Economica*, 47(187): 247-283.
- Kaminsky, G., C. Reinhart, and C. Vegh. 2005. *When It Rains, It Pours: Procyclical Capital Flows and Macroeconomic Policies*. NBER Macroeconomics Annual.
- Koepke, R. 2015. What Drives Capital Flows to Emerging Markets? A Survey of Empirical Literature. *Institute for International Financial Working Paper*.
- Lane, P. R. and G. M. Milesi-Ferretti. 2002. Long Term Capital Movements. NBER Macroeconomics Annual 16.
- Lane, P. R. and G. M. Milesi-Ferretti. 2007. The External Wealth of Nations Mark II: Revised and Extended Estimates of Foreign Assets and Liabilities, 1970-2004. *Journal of International Economics*, 73(2): 223-250.
- Levchenko, A. and P. Mauro. 2007. Do Some Forms of Financial Flows Help Protect Against “Sudden Stops”? *The World Bank Economic Review*, 21(3): 389-411.
- Lynch, L. 1989. The Youth Labour Market in the Eighties: Determinants of Re-employment Probabilities for Young Men and Women. *Review of Economics and Statistics*, 71(1): 37-45.
- Magud, N., C. Reinhart, and E. Vesperoni. 2014. Capital Inflows, Exchange Rate Flexibility, and Credit Booms. *Review of Development Economics*, 18(3): 415-430.
- Martinez-Granado, M. 2002. Self-Employment and Labour Market Transitions: A Multiple State Model. *CEPR Discussion Paper No. 3661*.
- Milesi-Ferretti, G.-M. and C. Tille. 2011. The Great Retrenchment: International Capital Flows during the Global Financial Crisis. *Economic Policy*, 26(66): 285-342.
- Ostry, J., A. Ghosh, K. Habermeier, M. Chamon, M. Qureshi, and D. Reinhart. 2010. Capital Inflows: The Role of Controls. *IMF Staff Position Note SPN/10/14*.
- Park, C.-Y. and R. Mercado. 2014. Equity Home Bias, Financial Integration, and Regulatory Reforms: Implications for Emerging Asia. In *Global Shock, Risks, and Asian Financial Reform*. Edited by I. Azis and H. S. Shin. Edward Elgar and Asian Development Bank.
- Reinhart, C. and V. Reinhart. 2009. Capital Flow Bonanzas: An Encompassing View of the Past and Present. NBER International Seminar on Macroeconomics 2008.
- Rothenberg, A. and F. Warnock. 2011. Sudden Flight and True Sudden Stops. *Review of International Economics*, 19(3): 509-524.
- Sula, O. 2010. Surges and Sudden Stops of Capital Flows to Emerging Markets. *Open Economics Review*, 21:589-605.