Introduction

- **EPFR: Emerging Portfolio Fund Research, Inc**
  - Investment fund flows and asset allocation data
  - 15K funds with investments in 130 countries
  - $23.5 trillion in total assets

- **CPIS: Coordinated Portfolio Investment Survey**
  - Bilateral equity and debt holdings
  - Data from 78 source countries on investment in about 240 destination countries
Outline

- Data Description
- Accessing the data
- Literature Review
- Using the data
- Pricing
- References
EPFR: Data Description

- **Coverage**
  - 15K funds as of 7/2/14 (9,677 equity; 4,269 bond; 642 other)
  - $23.5 trillion in total assets
EPFR: Data Description

- Daily flows available at 5pm EST for the previous day
- Weekly fund flows available 5pm EST each Thursday for the previous 7 days (not all funds report daily)
- Monthly 5pm EST on the 23rd for the previous month
- Fund flows history:
  - Equity: to Jan 1995 (Monthly), Oct 2000 (Weekly), and May 2007 (Daily)
  - Bond: to Jan 2004 (Monthly), Apr 2004 (Weekly), and May 2007 (Daily)
- Country allocation history:
  - Equity: to Jan 1995 (GEM funds) and Jan 2001 (Global funds)
  - Bond: to Nov 2001 (GEM funds) and Jul 2005 (Global funds)
- Sector/industry (GICS I/II) weightings, in % terms, of fund groups and individual asset managers and funds
  - Monthly data, history to 2006

Data Sources: EPFR and CPIS
EPFR: Data Description

- Equity, Bond, Money Market, Balanced and Speciality fund groups
- Equity Fund Regional Groups
  - Developed market (DM)
  - Global
  - Asia Pacific
  - North America
  - Western Europe
  - All EM
  - Asia ex-Japan
  - EMEA
  - GEM
  - LatAm
  - Global Sector
  - BRIC
EPFR: Data Description

- Bond fund groups include most of the equity regions, plus:
  - Local/Hard/Blend Currency
  - Floating Rate
  - High Yield
  - Inflation Protected
  - Mortgage Backed
  - Total Return
  - Government
  - Corporate
  - Short-term
  - Intermediate-term
  - Long-term
EPFR: Data Description

- Fund type filters:
  - Type (ETF/Non-ETF)
  - Domicile
  - Currency
  - Benchmark
  - Investor type (retail, institutional, active, passive)
  - Thematic (commodity, frontier, bear, socially responsible, leverage 1x, 2x, 3x...many more)
EPFR: Data Description

- Data collected for each fund
  - Each period (monthly, weekly, daily) the fund manager or administrator provides three items:
    1. Beginning of period assets,
    2. End of period assets, and
    3. Percentage change in net asset value (NAV).

- Firms send these data to US regulators and others (Bloomberg, Morningstar, etc.) in addition to EPFR

- Some funds also report their allocations to specific countries/regions on a monthly basis, including cash balance
EPFR: Data Description

- Fund Flows:
  
  \[ \text{Local Currency (LC) Portfolio Change} = \] 
  \[ \text{Beginning Period Assets} \times \text{NAV Performance} \]

  \[ \text{LC Fund Flows} = \] 
  \[ \text{End Period Assets} - \text{Beginning Period Assets} - \text{Portfolio Change} \]

  \[ \text{US$ Fund Flows} = \] 
  \[ \text{LC Fund Flows} \times \text{Average Exchange Rate} \]

- Country Flows:
  
  \[ \text{Country flow} = \text{Prior month allocation} \times \text{total fund flow} \]
EPFR: Accessing the Data

- Easy to use web interface
- Aggregation and scaling options
  - Individual funds, fund categories, countries
  - US$ Flows, per period or cumulative
  - Total Net Assets (TNA)
  - Flows as % TNA, per period or cumulative
  - NAV % change, per period or cumulative
  - Country allocation at fund or manager level
- Various output options (table, chart, XML, excel, text, sql)
EPFR: Accessing the Data

- Other delivery methods:
  - FTP delivery
  - Haver Analytics/DLX delivery
  - Personalized daily/weekly/monthly charts and Excel reports delivered by email – e.g. flows by country, sector, or asset class
  - Email delivery of EPFR Chartbook, research reports with latest sector, country and regional equity allocations, and news releases
  - Ad-hoc email delivery of EPFR research notes pertaining to latest flow/positioning data signals.
  - Calls with EPFR macro and quant analysts
EPFR: Literature Review

- Systemic risk/risk propagation:
  - Broner et al. 2006; Jinjarak and Zheng 2014; Jotikasthira et al. 2012; Puy 2014; Raddatz and Schmukler 2012

- Evaluating push/pull factors:
  - Canela et al. 2006; Fratzscher 2011; Jotikasthira et al. 2012; Lo Duca 2012; Puy 2014

- Capital controls/macroprudential measures:
  - Forbes et al. 2012; Lambert et al. 2013
EPFR: Literature Review

- **Effect of unconventional monetary policy:**
  - Burns et al 2014; IADB 2014; Lin et al 2014; Fratzscher et al 2013

- **Other:**
  - Gelos and Wei 2006 – transparency
  - Wei et al 2010 – response to IMF programs
  - Miao and Pant 2012 – more timely indicator of BOP flows
  - Raddatz et al 2014 – benchmark effect
EPFR: Using the data

- Papers including helpful descriptions on using EPFR data:
  - Raddatz and Schmukler 2012;
  - Raddatz et al 2014;
  - Jinjarak and Zheng 2014;
  - Miao and Pant 2014
EPFR: Using the data

- Potential biases in EPFR sample
  - Between 5 and 25% of the float-adjusted market capitalization of individual equity markets
  - Domiciles for most of the funds are in advanced countries
  - Historically, retail funds dominated number of funds (though currently evenly split between retail and institutional investors); missing central bank flows (Jotikasthira et al 2012, Ree and Choi 2014)
  - Cross-country average correlations between the EPFR and TIC ownership change series are $\sim 22\%$ for emerging countries. (Jotikasthira et al 2012)
  - Includes a significant fraction of index funds; country allocations of these funds have low volatility (Jotikasthira et al 2012)
EPFR: Using the data

Methods of “cleaning” EPFR data (Fratzscher 2011; Jinjarak and Zheng 2014, others)

○ Correcting for changing sample:
  • Retain only those funds which are continuously reporting throughout the sample period
  • Alternatively, keeping funds with more than 30 weeks of observations
○ Exclude funds with less than USD 5 million AUM
○ Exclude funds that record at times extreme net inflows or net outflows
○ Exclude funds for which no geographic allocations information is available
Thoughts on country–level flow estimates

- Country level flows are estimated from the monthly country allocations:
  \[ \text{Country flow} = \text{prior month allocation} \times \text{total fund flow} \]
- For funds investing in multiple countries, there will be no inter–country reallocation between months
  - Flows will be either into all countries or out of all countries in intermediate reporting periods
- Not an issue for dedicated country flows
During recent turmoil, flows to dedicated Russia funds differed from estimates of flows to Russia from global/regional funds.

Data Sources: EPFR and CPIS
Reported estimates of flows to Russia have also been more volatile than flows implied from changes in NAV and returns.
Thoughts on country-level flow estimates

- Allocation-estimated flows may lead to excessive co-movement among countries and over-identification of common factors
- Raddatz and Schmukler 2012; Raddatz et al. 2014 construct flows using indexes to estimate returns, use the benchmark when it is declared for the fund
- Focusing on fund level flows into country-dedicated and regional funds should resolve this bias
EPFR: Pricing

- EPFR offers discounted pricing to customers who are doing exclusively academic research.
- Pricing guidelines:
  - One-time delivery of aggregate level historical data: $5K–$10K;
  - One-time delivery of fund-detail level historical data: $10K–$20K;
  - Annual subscriptions which include all historical data plus one year of updates are available at a 50% discount.
- Contact:
  - Simon Ringrose, Managing Director
  - EPFR Global, 80 Sherman Street, Cambridge MA 02140
  - tel 617–864–4999 ext 30; cell 617–513–3322
  - www.epfr.com
EPFR: References


EPFR: References (cont.)

CPIS: Data Description

- Compiled by the IMF from country surveys
- Records aggregate bilateral cross-border holdings of equity securities and long- and short-term debt securities
- Data from 78 source countries on investment in about 240 destination countries
- Data is reported using BPM6 IIP valuation principles
- Holdings of domestic securities are excluded
- Annually as of end-December since 2001; also end-June beginning with data for June 2013)
CPIS: Data Description

- Excludes data included as part of BOP DI, reserves, or derivatives.
- Augmented with information from: Securities Held as Foreign Exchange Reserves, and Securities Held by International Organizations
- Some economies report additional classifications by institutional sector of resident holder, institutional sector of nonresident issuer, sector of resident holder and sector of nonresident issuer for specified economies, currency composition of the holdings, and on short (negative) positions.
- Some economies also report on portfolio investment liabilities
CPIS: Literature Review

- Global investment patterns
  - Aggarwal et al 2008 – gravity model
  - Feletti and Monti 2008 – mutual funds
  - Karolyi et al 2013 – investment by EM investors
  - Lane and Milesi–Ferretti (LMF) 2004 – euro area
  - Lane and Milesi–Ferretti (LMF) 2005 – general
  - Pongsaparn and Unteroberdoerster 2011 – integration and rebalancing in Asia
  - Hau and Rey 2008 – rebalancing
CPIS: Literature Review

- **Systemic risk/risk propagation:**

- **Crisis investment focus**
  - Bertaut 2008; Kamin and DeMarco 2010; Vermeulen 2011

- **“External wealth of nations”**

Data Sources: EPFR and CPIS
Website interface can be used to generate country-level reports:

- Assets holdings by source country by issuer destination country
  - Confidential data listed separately without country allocation
- Derived data on investment liabilities for each source country
CPIS: Using the Data

- Data coverage is incomplete in some dimensions
  - Some destination information is confidential
  - Incomplete source country coverage (no data from China, oil exporters)
  - Survey issues for various countries. For example, the German survey did not cover holdings by households (LMF 2004)
  - Does not separately identify sovereign and corporate debt
  - The bilateral data can be distorted by third-party holdings, by which a resident in country A holds securities in country B through an institution residing in country C (LMF 2005)
CPIS: Using the Data

- Methods of “cleaning” CPIS data
  - Corporate and sovereign debt holdings estimated using the US TIC data (Kamin and Demarco 2010, Gourinchas et al 2012)
  - Correction for large US ABS holdings by funds incorporated in the Cayman islands using the US TIC data (Kamin and DeMarco 2010, Gourinchas et al 2012)
CPIS: Pricing

- Data available at no cost at cpis.imf.org
- Can also be queried using the IMF eLibrary which requires a subscription for some functions.
  - Individual subscriptions cost $10–$99/year.
  - Institutional subscriptions available, free to academic institutions in developing economies.
CPIS: References

CPIS: References (cont.)