

# ***Biased Forecasts of Economic Activity and Monetary Policy Decisions***

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# Introduction

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- The prime objective of monetary policy is price stability with some concern for output if it deviates from a level that is compatible with natural rate of unemployment
- Monetary policy mainly focuses on inflation and stabilizes volatile output and respond to any other variable only if it poses challenge for price stability:
- Most of the countries in the world have some form of numerical target, explicit or implicit, point or range, measured through CPI
- Short term interest rate has been used as operational target to achieve the goals
- Policy is forward-looking due to forward inertia in target variables: forecasts are important.
- Interest rate affects aggregate demand and price level through different monetary policy transmission channels: Interest rate Channel, Asset Price Channel, Credit Channel, Exchange Rate Channel, and Expectation channel



# Price stability as the main objective

## Monetary policy objectives of central banks

	In the law			Extra-statutory	
	Constitution	International treaty	Statute	Published statement not having the force of law	Accepted practice
Objectives that include price stability					
Price stability	DE		BR, HU, IS, JP, KR, NZ, PH, SE, TR	CA, CL, HU, ID, IL, JP, MX, NO, PH, SE, ZA	
Price stability with subsidiary macro objectives	CZ	AT, BE, BG, DE, (ECB), ES, FI, FR, GR, IE, IT, NL, PT, SK (all part of Eurosystem)	AT, BE, BG, CH, CZ, DE, (ECB), ES, FI, FR, GR, IE, IT, NL, PL, PT, TH, UK	AU, CZ, (Eurosystem), NZ, PL, UK	US
Price stability alongside other macro objectives			CA, US		
Objectives that are equivalent to price stability					
Domestic purchasing power	MX		AR, BR, IL, MX		
Objectives that do not expressly refer to price stability					
Monetary stability			IN, MY, SG, TH		
Value/stability of currency	ZA, PL, RU		AU, BR, CA, CN, CL, ID, IL, HK, MY, RU, ZA		
General welfare, general economic health, growth, development	CH		AU, BR, IL, MY,		

# Why is price stability main objective?

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- Inflation is costly for economic growth in the long run
  - The potential benefits of low inflation include faster economic growth, higher productivity, a more stable economic environment, and fewer tax distortions (Filardo, 1998).
  - No arbitrary redistribution of wealth, low shoe leather and menu costs, lesser chances of wage-price spiral
- Monetary policy cannot do everything
  - Monetary policy can achieve two objectives: First, it can avoid being a source of economic disturbances. Second, it can foster sustainable high real growth by stabilizing the aggregate price level (Friedman, 1967).
  - Education policy, industrial policy, trade policy, exchange rate policy, fiscal policy for other objectives

# Long run Gain - short run pain

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- The costs of achieving and maintaining low inflation include lost output, higher unemployment, and related social ills.
- The magnitude of output loss during the transition to lower inflation is measured by the sacrifice ratio, which is the percentage of a year's real GDP that has to be given up to reduce inflation by 1%
- Empirical Evidence: Barro (1996) finds negative effect of inflation on growth while Okun (1978), Ball (1994), Filardo (1998), Zhang (2001) all find positive cost of disinflationary policies



# Why to bear pain?

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- Agreement that long run gain is greater than short run pain – price stability as the main objective
- Economic theory and money neutrality
  - Walrasian models: static, rational expectations
  - Non-walrasian models: imperfect information, nominal rigidity
- Monetary policy's ability to affect real economic activity -- except for cases of egregious policy errors -- is usually quite limited and is almost always short-lived. Real activity is driven predominantly by factors beyond the control of monetary policy, such as productivity and population growth (Jeffrey M Lacker, 2015)

# Forecasting models and real research question

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- Do the long-term benefits of reducing inflation outweigh the short-term costs? Economists have been so focused on measuring the costs that they have not asked whether the gain that results from lower inflation justifies the pain required to reduce it. (Stanford GSB Staff, 2001)
- Extremism in empirical research: either short run pain or long run gain
- Real research question: comparison of gain and pain in one empirical model
- *Forecasting* enters the scene, here

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***Hypothesis:*** Theoretical and empirical models under-forecast the effects of monetary policy decisions on economic activity (output)



# Why?

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- Issues in estimating sacrifice ratio
- Endogenous growth models and long run non-neutrality of monetary policy
- Asset prices and rent-seeking
- Monetary policy, inequality, growth and instability
- Overvalued exchange rate and economic growth
- Sectoral composition and economic growth

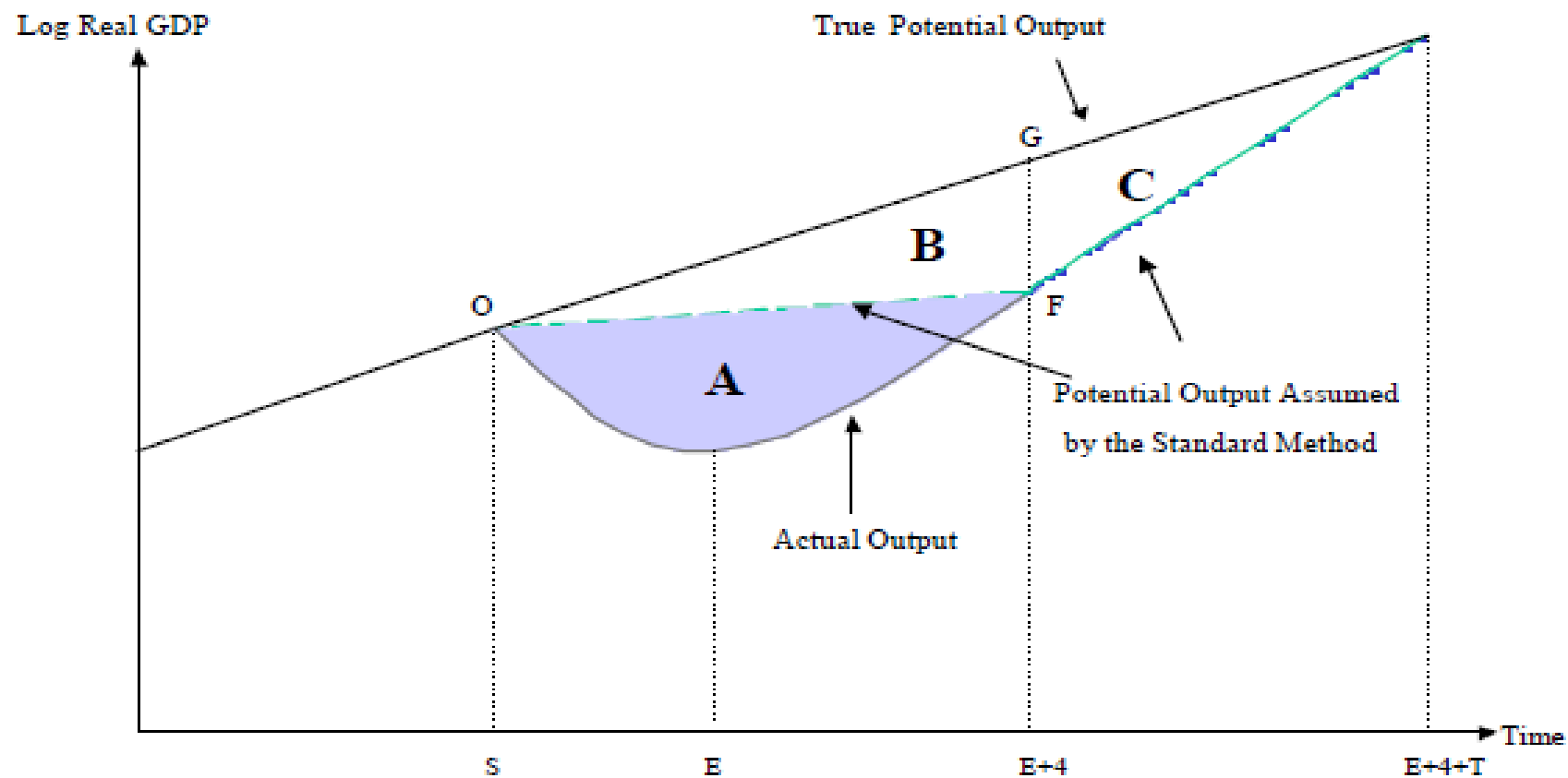
# 1. Issues in estimating sacrifice ratio

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- Estimation based on Phillips curve relationship (Okun, 1978; Gordon and King, 1982)
- Episode specific sacrifice ratio (Ball, 1994)
- Long-lived (persistence) effects and sacrifice ratio:
  - Blinder (1987) for Volcker disinflation, Romer and Romer (1989; 1994), Ball (1997), Christiano, Eichenbaum, and Evans (1996), Romer (1989), Dolado and Lopez Salido (1996) for Spain, Zhang (2001)
  - During the first half of the 1980s real output growth for the OECD area was less than  $2\frac{1}{2}$  per cent per year, compared with  $3\frac{1}{2}$  per cent for the previous five years (Andersen, 1992).



**Figure 1. True Sacrifice Ratio and Sacrifice Ratio By the Standard Method**



Source:  
Zhang,  
(2001)

# Issues in estimating sacrifice ratio .....

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- **Hysteresis:** when a disinflationary monetary policy affects potential output - the permanent effects of disinflation Blanchard and Summers (1986). Disinflationary policies have an effect on NAIRU (Ball, 1997; 1999)
- Developing economies: disinflation vs resisting rising inflation depending on stage of development
- Nonlinearity of Phillips curve and cost of fighting rising inflation vs disinflation: A concave curve implies that a policy to preemptively resist rising inflation of a given size is more costly than a policy to deliberately disinflate (Filardo, 1998).



## 2. Endogenous growth models and non-neutrality

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- Long run non-neutrality in Monetary and Real business cycle models with exogenous technology
- There is a long-run non- neutrality of money in models with endogenous technology: monetary shocks have a permanent impact on output, and output is nonstationary, even in the absence of exogenous shocks to the supply side (Stadler, 1990)
- Chari, Jones, and Manuelli (1995) show that in a broad class of endogenous-growth models the maximum effect of a 10 percentage point decrease in the inflation rate is for the growth rate of real output to rise by 0.027 percentage points
- The costs of disinflation are sharp and obvious; the benefits are diffuse and subtle (Christopher Ragan, 1998)

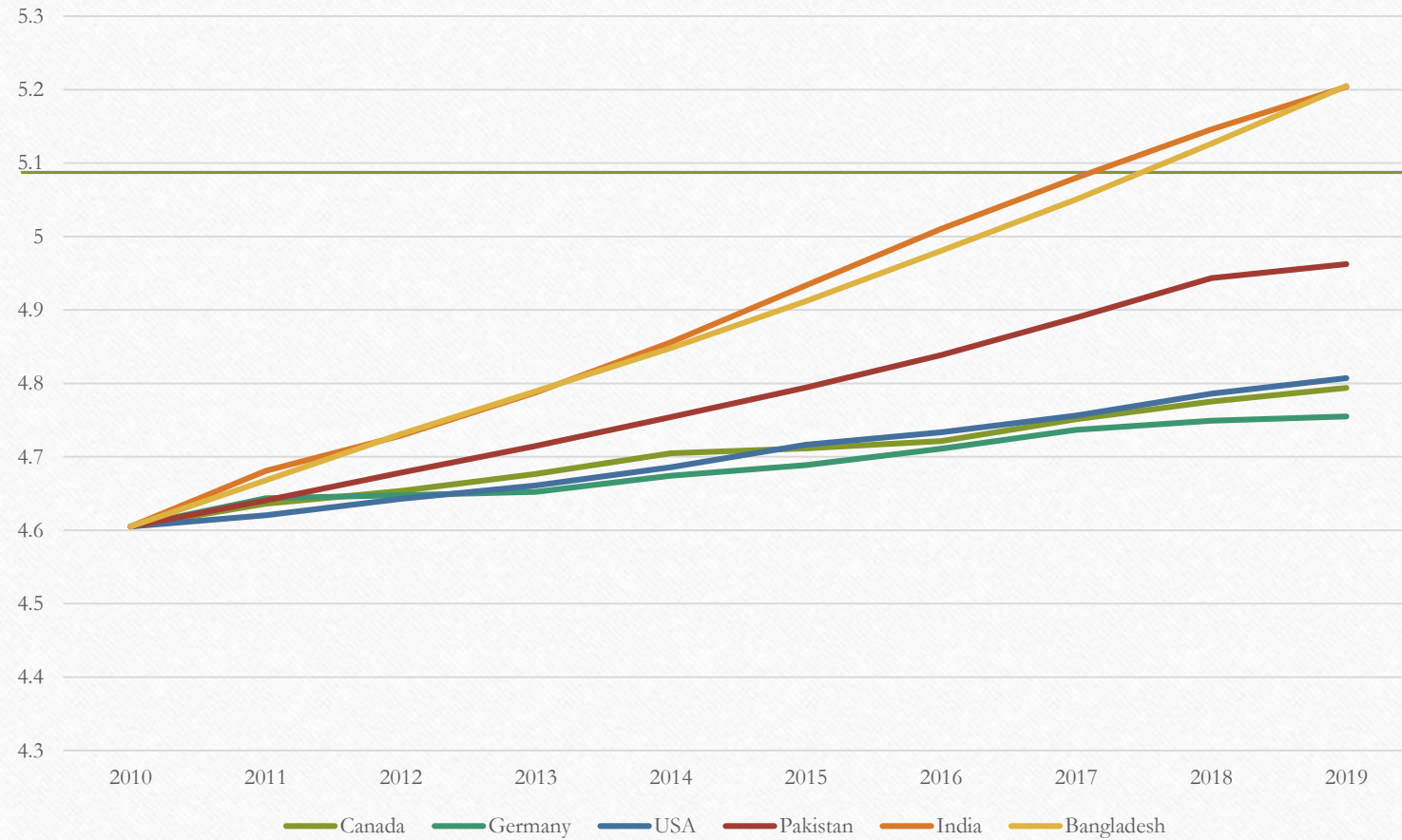
# Endogenous growth models and non-neutrality.....

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- Changes in the utilization of factor inputs when demand changes can result in reorganization and the acquisition of new skills – *learning by doing*,
  - A 1% change in cumulative output is associated with roughly a 0.03% change in output. In terms of cumulative output per unit of labour input, this rises to 0.08% (Bahk and Gort, 1993)
  - The aggressive monetary policy response to the crisis arguably supported *productivity* by easing credit conditions and softening the blow to investment, mitigating hysteresis (**Maurice Obstfeld, Romain Duval** 10 January 2018)
- A higher level of output may make innovation more profitable and result in the allocation of more resources to R&D (Stadler, 1990)
- A higher level of output provides more resources to invest in technology.



Growth Comparison



Disinflationary  
policies may  
hurt  
developing  
countries more

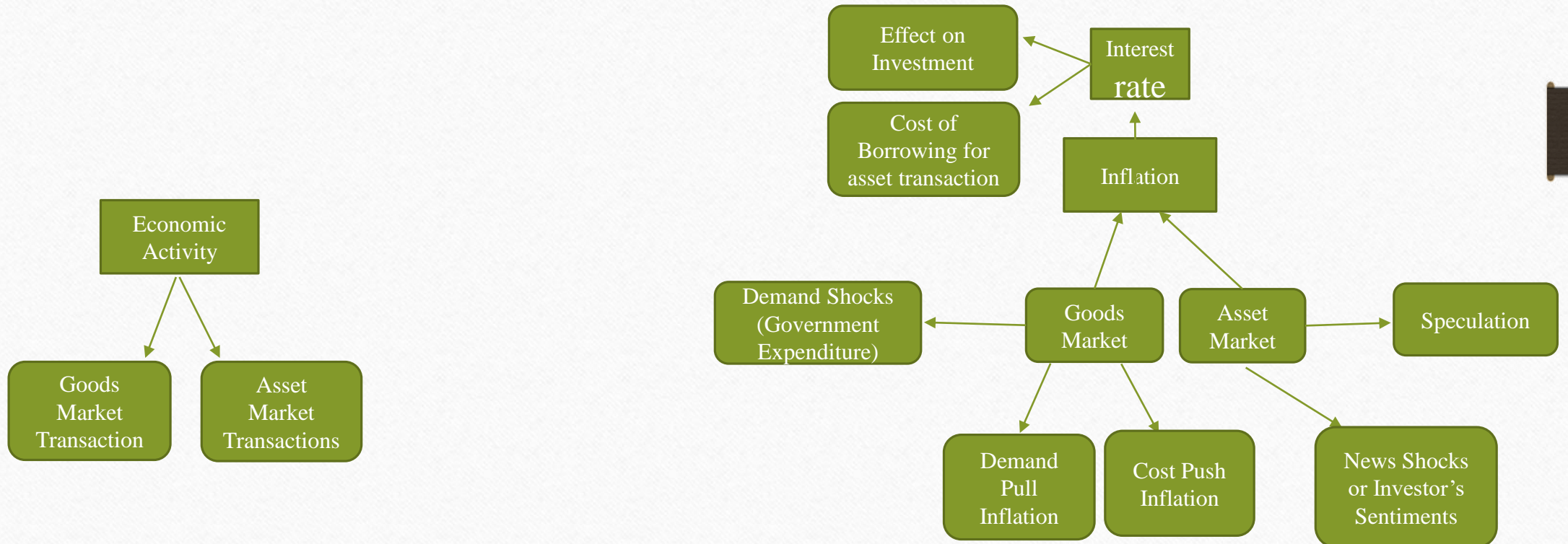
### 3. Asset Prices and rent-seeking

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- Rising asset valuations go hand in hand with the economy's increasing focus on extraction of economic rent, not earned by work, innovation or entrepreneurship in the production process..... rent has no corresponding product (Michael Hudson, 2020)
- Elevated asset prices, notably of housing, may draw resources into sectors like construction where TFP growth is slow (Giavazzi and Spaventa 2011)



# Asset Prices and rent-seeking .....



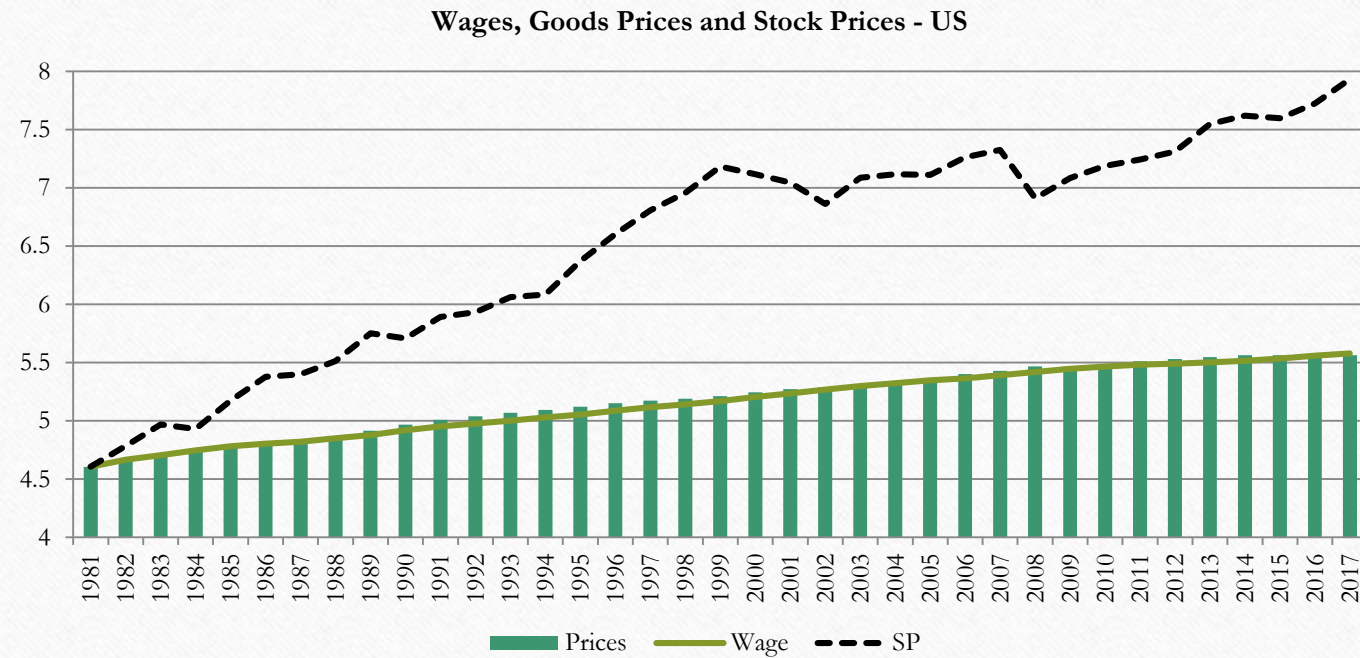
# Asset Prices and rent-seeking.....

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- Forward looking monetary policy: inflationary expectations are managed
- this happens when asset prices have already increased
- But at the time of increase in goods prices, central bank tightens monetary policy
- discourages adjustment in goods and labor prices.
- wage and goods price inflation is lower compared to asset price inflation.
- Asset market and rent-seeking becomes more attractive compared to goods market



# Asset Prices and rent-seeking .....



## 4. Monetary policy, inequality, growth and instability

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- Conventional monetary policy affect income and consumption distribution through different channels (Coibion et al. 2017): Income Composition Channel, Financial segmentation Channel, Portfolio Channel, Saving Redistribution Channel, Earning Heterogeneity Channel, Interest Rate Exposure Channel.
- Movements in expected inflation rate, according to current practice, call for adjustment in current policy interest rate irrespective of the type of shock that caused movement in inflation at the first place.
- This makes income distribution in favor of asset holders and against labor if asset prices are not directly responded by monetary policy



# Monetary policy, inequality, growth and instability .....

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- More egalitarian societies tend to have lower steady-state unemployment. They also tend to have higher rates of technical progress and productivity growth (James Galbraith)
- Indeed, there is empirical evidence that income inequality increases social conflict and instability as measured by protests, strikes, government turnover, political violence, coups, and revolutions (Richard H. McAdams, 2007)
- Besides redistribution and corruption, inequality may also undermine growth by its affect on education and human capital

# Growth and Inequality: Empirical Evidence

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- a one standard deviation increase in the income share of the top 20 percent *lowers* the average annual growth rate by approximately half a percentage point (Persson and Tabellini, 1994)
- If the income share of the top 20 percent increases by 1 percentage point, GDP growth is actually 0.08 percentage point *lower* in the following five years, suggesting that the benefits do not trickle down. Instead, a similar increase in the income share of the bottom 20 percent (the poor) is associated with 0.38 percentage point *higher* growth
- income inequality (as measured by the Gini coefficient) negatively affects growth and its sustainability (Ostry, Berg, and Tsangarides 2014; Berg and Ostry 2011).



## 5. Exchange rate misalignment and economic growth

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- Disinflation through higher interest rate and foreign exchange intervention may render exchange rate overvalued
- Overvalued currencies are associated with foreign currency shortages, rent seeking and corruption, unsustainably large current account deficits, balance of payments crises, and stop-and-go macroeconomic cycles, all of which are damaging to growth (Dani Rodrick, 2008)
- For most countries, periods of rapid growth are associated with undervaluation.

# Exchange rate misalignment and economic growth....

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- an increase in undervaluation boosts economic growth just as powerfully as a decrease in overvaluation. But this relationship holds only for developing countries; it disappears when the sample is restricted to richer countries, and it gets stronger the poorer the country (Dani Rodrick, 2008).
- Tradables suffer disproportionately from the government or market failures that keep poor countries from converging toward countries with higher incomes.



## 6. Sectoral distribution of economic activity and growth

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- Changes in interest rate induce changes in investment but credit non-constrained firms respond more: this may discourage innovations and may increase rent-seeking.
- for the post-crisis period, is that easy monetary conditions may have amplified the zombie firm phenomenon by making it easier for weak banks to evergreen loans and for weak firms to borrow their way into staying alive, with potential implications not only for aggregate productivity but also for financial stability (**Maurice Obstfeld, Romain Duval** 10 January 2018)

# Way forward

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- Forecasting models are modified to estimate both long run gain and short run pain so that these two effects can be compared
- Simulation studies incorporate all above channels to simulate the effects of monetary policy decisions
- More research is needed on the relationship of asset prices and sectoral composition with economic growth and the role of monetary policy in this nexus.

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Thank you for your patience