



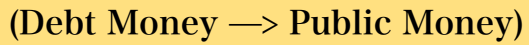



How Public Money is Born (part 1)

1. (1977-1985) Unifying Battles of Ideas in Economics  Striving
2. (1986-2002) Futures Studies, Sustainability and System Dynamics  Futures Studies
3. (2003-2009) Accounting System Dynamics
and Macroeconomic Modeling  ASD Macro Modeling
4. (2010-2014) Modeling American Monetary Act
and the Birth of Public Money  Public Money
followed by the Academic Assassination

Why We Need A Paradigm Shift in Economics (part 2)

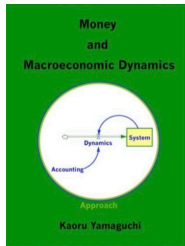
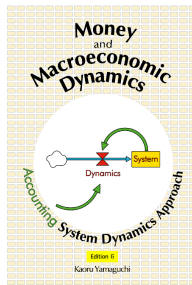
5. (2015-) Academic Resurrection and Findings of “Money as Debt”

6. (2021-) Paradigm Shift in Economics as a Science  (Debt Money —> Public Money)
7. (2025-) Public Money and MuRatopia Economy  Paradigm Shift

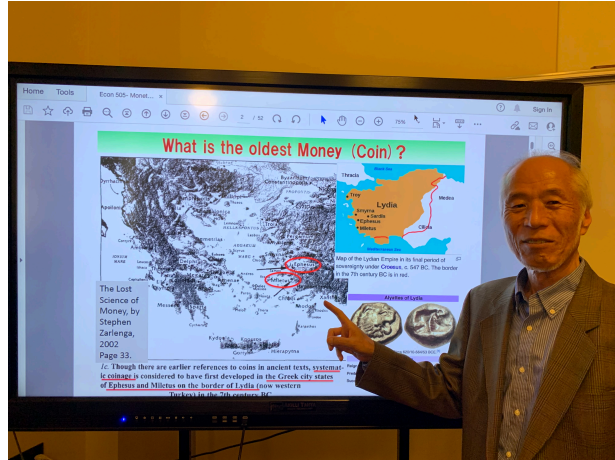
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Academic Resurrection in Turkey and Paradigm Shift in Economics

- (2015, 2017) Macroeconomic Workshop in Ankara, Turkey
- (2018–22) Invited to teach Graduate Courses in Ankara, using “Money and Macroeconomic Dynamics”



2013

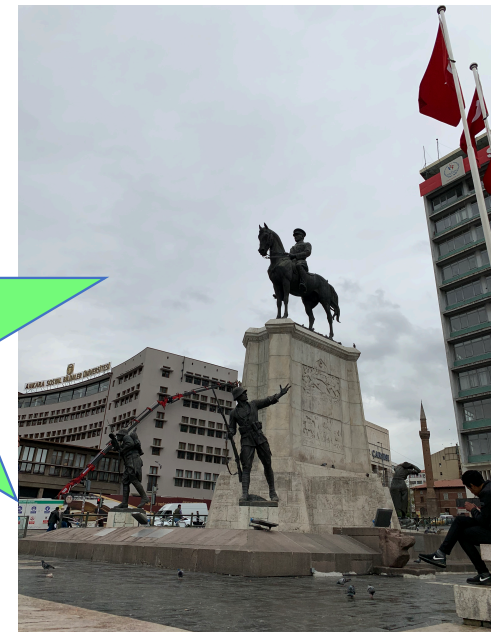


Teaching “Monetary Theory”



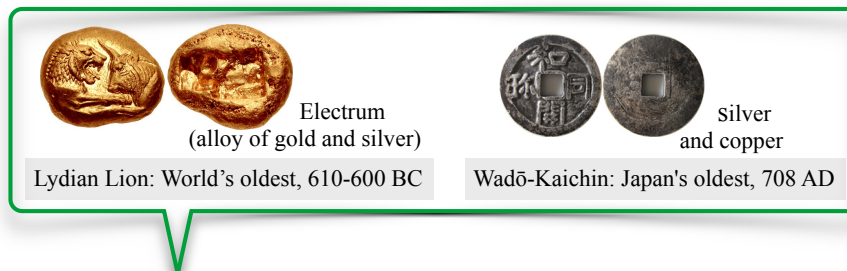
Dr. Syed Mahmud and
ASBU President

Surprise
Invitations



Social Sciences University
of Ankara (ASBU)

Classification of Money (Japan)



Unit: Trillion JPY (¥)

Issuance (Obverse Def.)	Public Money 4.8	Debt Money (99.7%) 1420.9 (≈ Total Debts of Producers, Households and Government)			
Types of Money in Japan (As of 2018)	Government Coins	Bank of Japan Notes	Reserves	Functional Money (Mf)	
	4.8	107.6	393.9	324.9	
Base Money (M0)	506.3				
Money Stocks (As of 2018)	Cash		Demand Deposits		Time Deposits
	112.4		718.8		594.5
M1	831.2				
M3	1,425.7				
Fiat Status (Reverse Def.)	Legal Tender (35.5%) 506.3			Expanded Functional Money (Mf) (64.5%) 919.4	

Data Source: Bank of Japan (2019). Monetary Statistics & FFA data.

Image Source: Lydian electrum (Wikipedia); WadoKaiho-gin (Wikipedia).

What is Money ?

Where does it come from ?

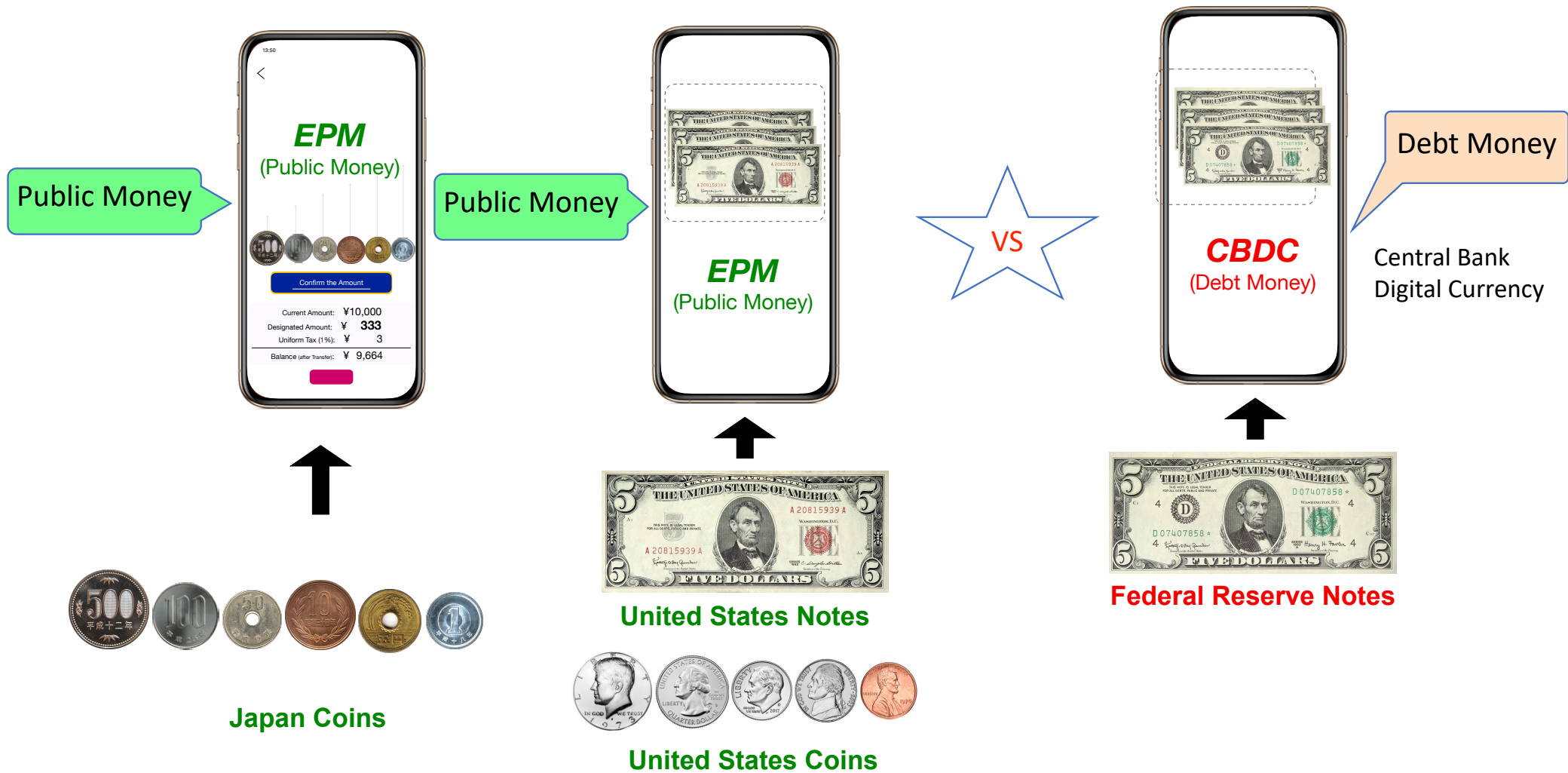
Public Money
(United States Note)
interest-free



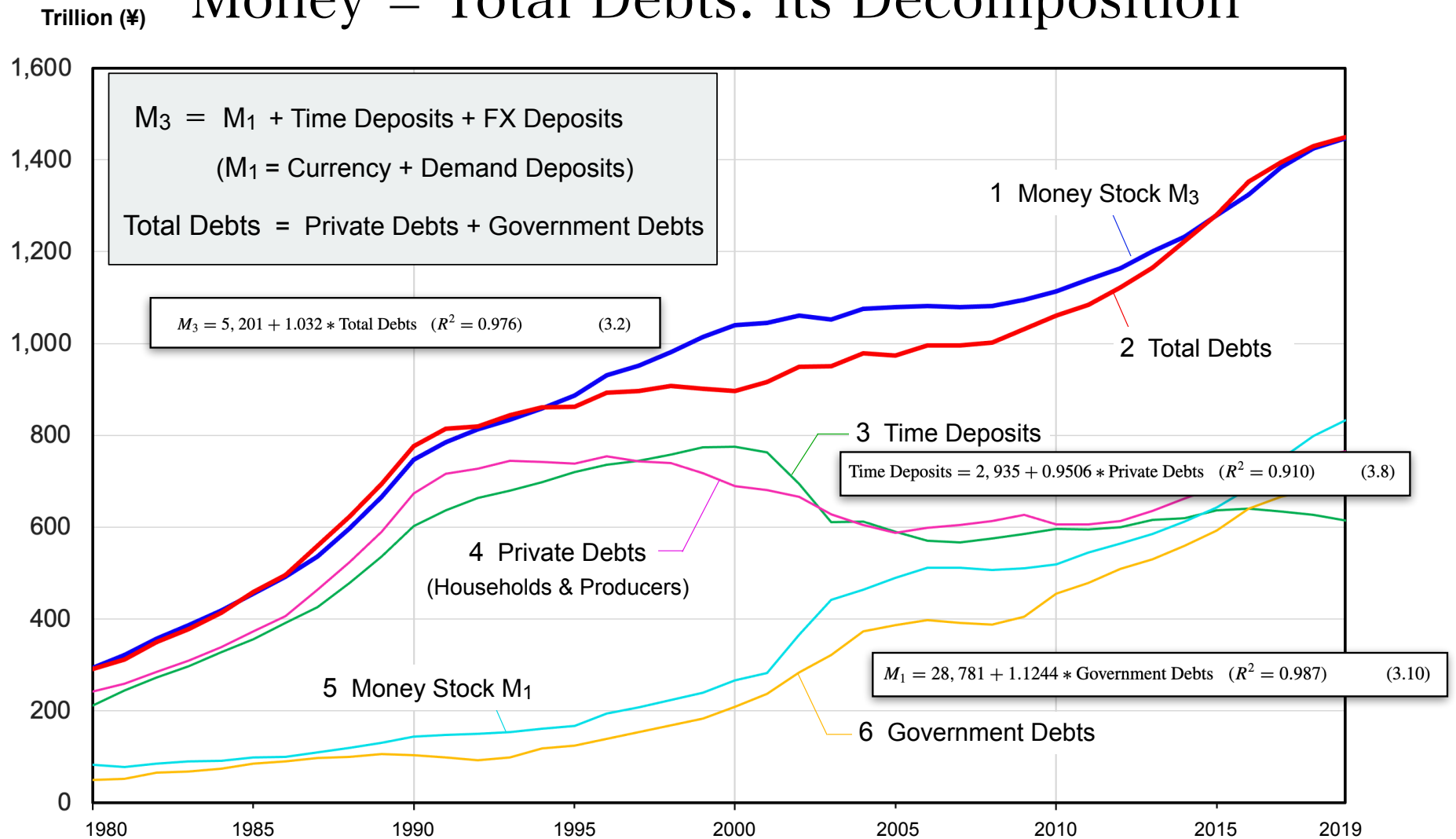
Debt Money
(Fed Reserve Note)
at interest



Digital Money



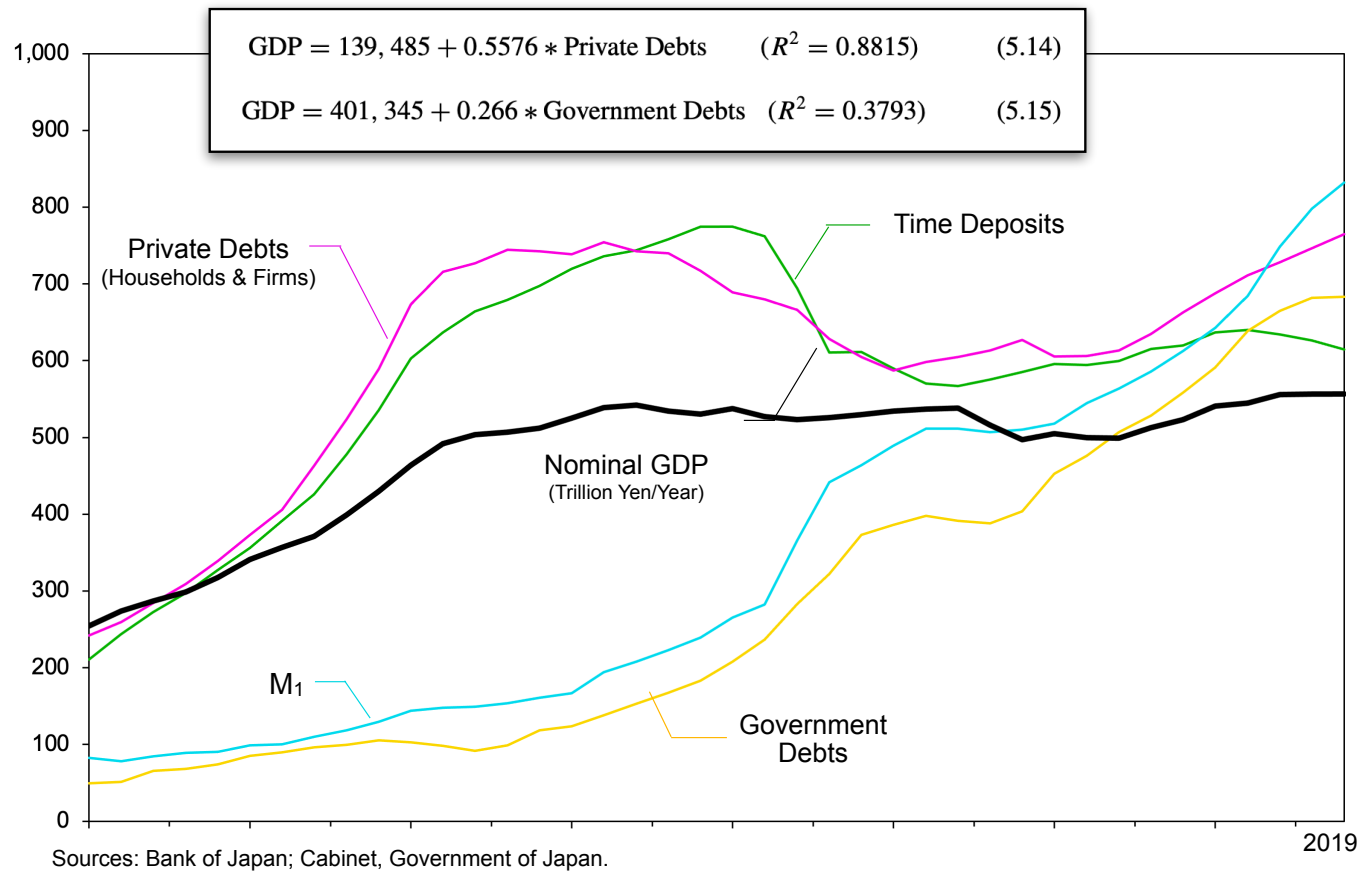
Money = Total Debts: its Decomposition



Source: Bank of Japan (2020) Flow of Funds Accounts.

(Trillion Yen)

Monetary Decomposition and GDP



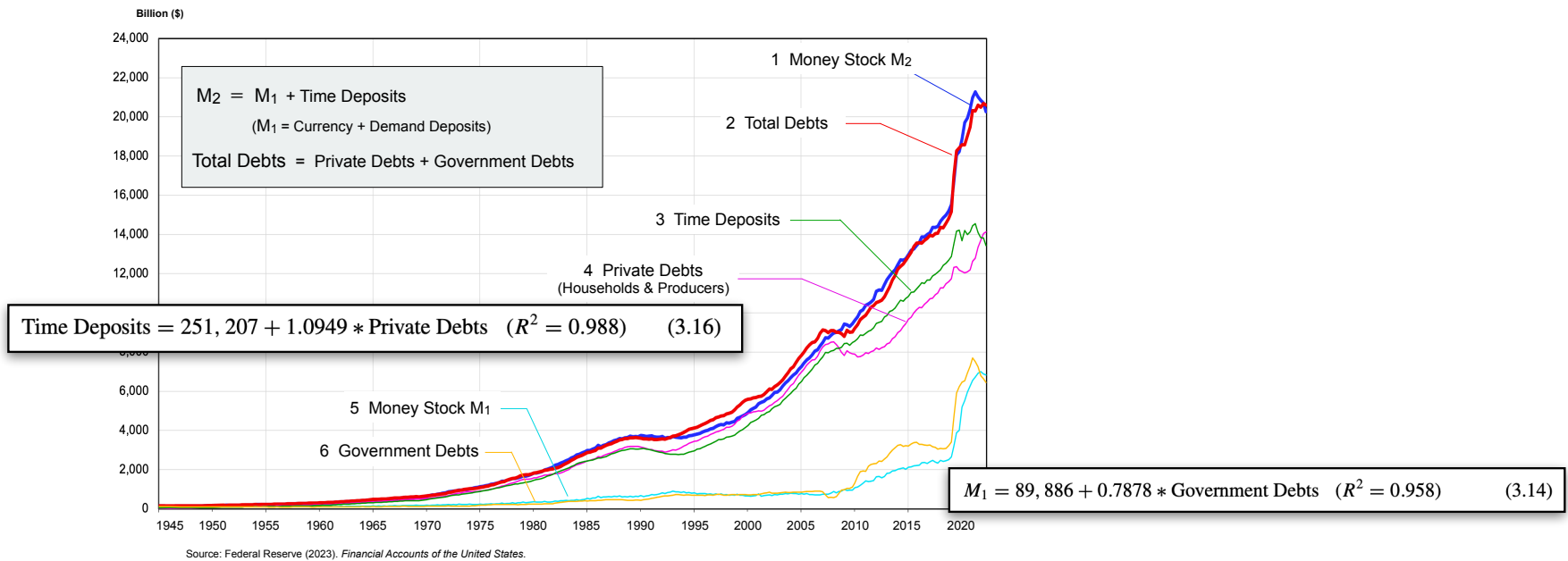
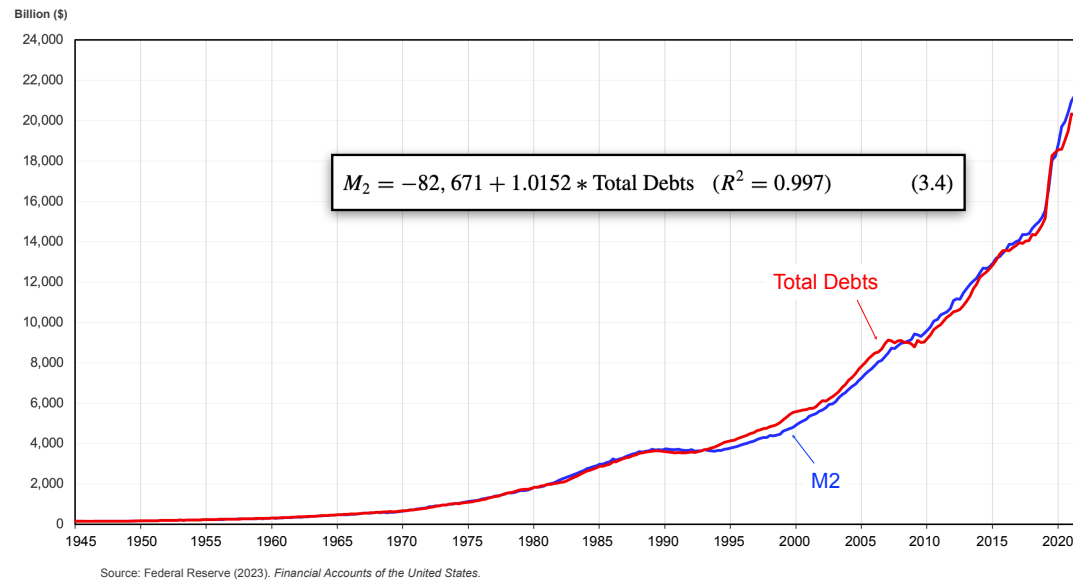
$$GDP = 148,537 + 0.4917 * \text{Private Debts} + 0.10934 * \text{Govt. Debts} \quad (R^2 = 0.93333) \quad (5.16)$$

Classification of Money (United States)





Unit: Billion USD (\$)

Issuance (Obverse Def.)	Public Money 51.4	Debt Money (99.8%) 20,648.6 (≈ Total Debts of Producers, Households and Government)		
Types of Money in the U.S. (As of 2022)	Government Coins	Federal Reserve Notes	Reserves	Functional Money (M_f)
	51.4	2,257.6	3,359.1	1,211.6
Base Money (M ₀)	5,668.1			
Money Stocks (As of 2022)	Cash		Demand Deposits	Time Deposits
	2,309.0		4,570.7	13,820.3
M1	6,879.7			
M2	20,700.0			
Fiat Status (Reverse Def.)	Legal Tender (27.4%) 5,668.1		Expanded Functional Money (M_F) (72.6%) 15,031.9	


Source: Federal Reserve (2023) Financial Account of the United States.



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6. (2021-) Paradigm Shift in Economics as a Science

Classification of 4 Monetary Theories

Monetary Theory		Overview	Models	Representative Economists
Public Money	Public Money Theory	Interest-free money is issued by the legislature as equity of the Public (under 100% reserve banking). This will prevent booms and busts, and realize price stability, sustainable growth, full employment and social welfare. EPM (Electronic Public Money) is proposed to protect privacy and freedom against control by retail CBDC (Central Bank Digital Currency).	ASD (Accounting System Dynamics) macroeconomic models, which integrate flow and stock approaches of modeling bank lending as the Heads and Tails of the same endogenous debt money. Banks are both intermediaries and creators of debt money under the current fractional reserve banking system.	Aristotle, Soddy, the Chicago Plan economists, Irving Fisher, and other proponents of 100% reserve banking, Stephen Zarlenga (AMI), Kaoru Yamaguchi, Yokei Yamaguchi, and more economists to follow.
	Mainstream Neoclassical: Moneyless Price and Commodity Money Theory	Relative prices are determined by general equilibrium of markets. Its numeraire commodity becomes money and determines absolute price levels. Money is thus neutral and only a veil of economic activities.	Neoclassical models such as Dynamic Stochastic General Equilibrium (DSGE) models and Real Business Cycle (RBC) models, etc.	Adam Smith, Karl Marx, Arrow, Debreu, Lucas, and other Classical and Neoclassical economists.
Debt Money	Mainstream Keynesian: Exogenous Debt Money Theory (Flow Approach)	Central bank supplies base money (M0), and money stock (M1, M2) is determined by the money multiplier. Banks are financial intermediaries of exogenously supplied money that collect deposits (loanable funds) from savers and lend to borrowers (flow approach of modeling bank lending).	Keynesian macroeconomic models such as the IS-LM analysis featured in standard macroeconomics textbooks, applied macroeconomic models, and Austrian Business Cycle theory, etc.	Mises, Phillips, Hayek, Keynes, Hicks, Modigliani, Samuelson, Hansen, Tobin, Bernanke, Blinder, Stiglitz, Koo, Krugman, Mankiw, and other (New) Keynesian economists, etc.
	Endogenous Debt Money Theory (Stock Approach)	Central bank supplies base money, with which banks create "deposits" out of nothing and destroy them when loans are repaid (stock approach of modeling bank lending). MMT defines "money is IOU (debt)" and closely equates treasury bond issuance as issuance of sovereign government currency.	Proposals of 100% reserve banking in 1930s such as the Chicago Plan are based on this endogenous debt money theory. Monetary reform groups of the American Monetary Institute (AMI) and MMT are in a fruitless debate without models.	Macleod, the Chicago Plan economists, Irving Fisher, Schumpeter, Friedman, Minsky, Werner, Keen, and other Post Keynesian and MMT economists (such as Wray), etc.

Fictitious

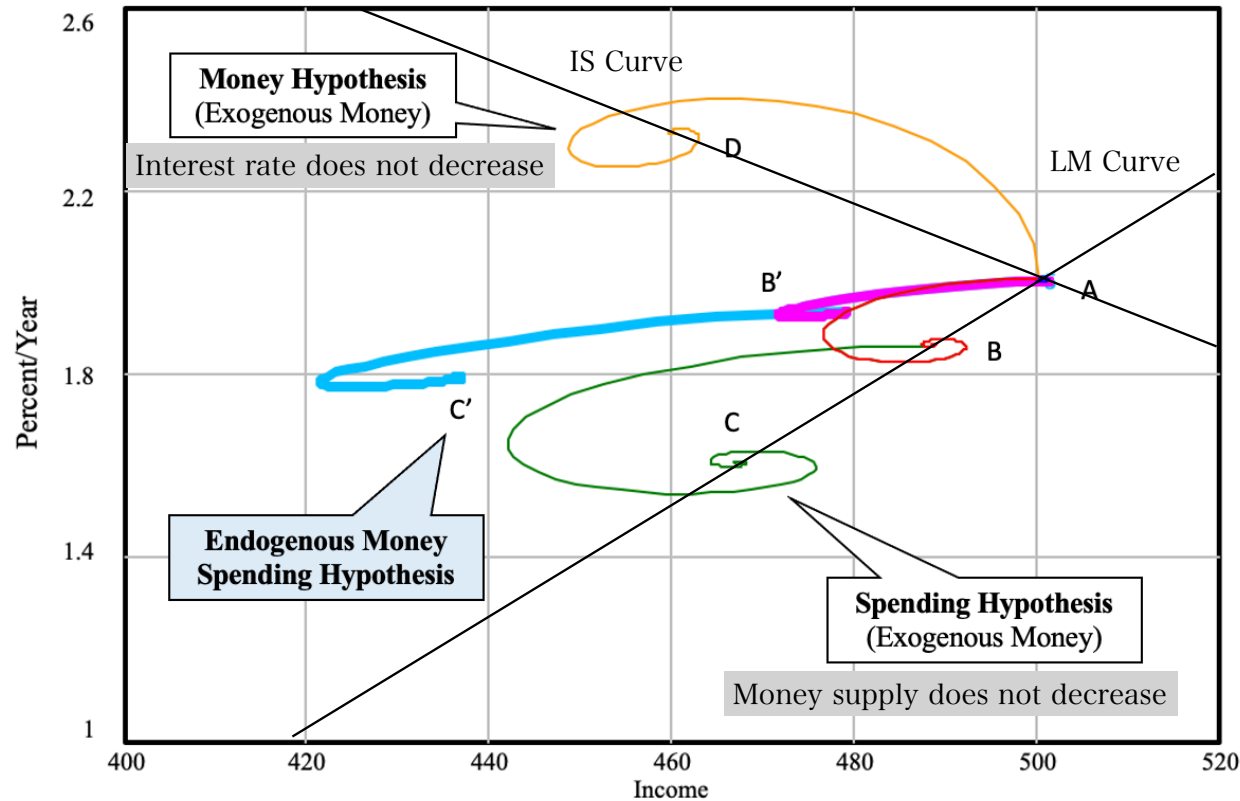
False
(fake)

“No theory of money is offered, and it is assumed that the economy works without the help of a good serving as medium of exchange (1959, p.28)”
(Debreu: Theory of Value)

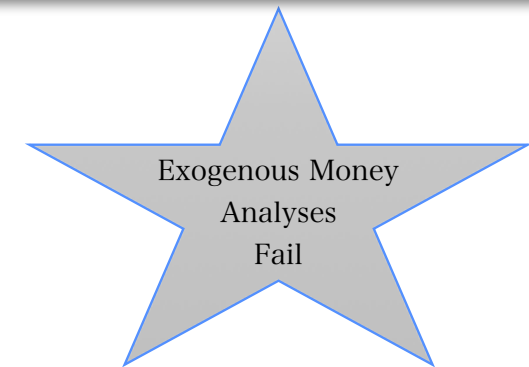
Fig. 9.1 Classification of monetary theories and their proponents

failed to explain Great Depression and Japan's Lost 30 Years.
(May be workable under Public Money System)

IS-LM Analysis of the Great Depression (1929 - 1933) with Exogenous Money (Fails)



	M^s	P	$\frac{M^s}{P}$	i	r
The Great Depression (1929-1933)	↓	↓	↑	↓	↑
Spending Hypothesis	→	→	→	↓	↓
Money Hypothesis	↓	→	↓	↑	↑



"Interest Rate (nominal)" : IS-LM Equilibrium.vdxf

"Interest Rate (nominal)" : IS-I(-).vdxf

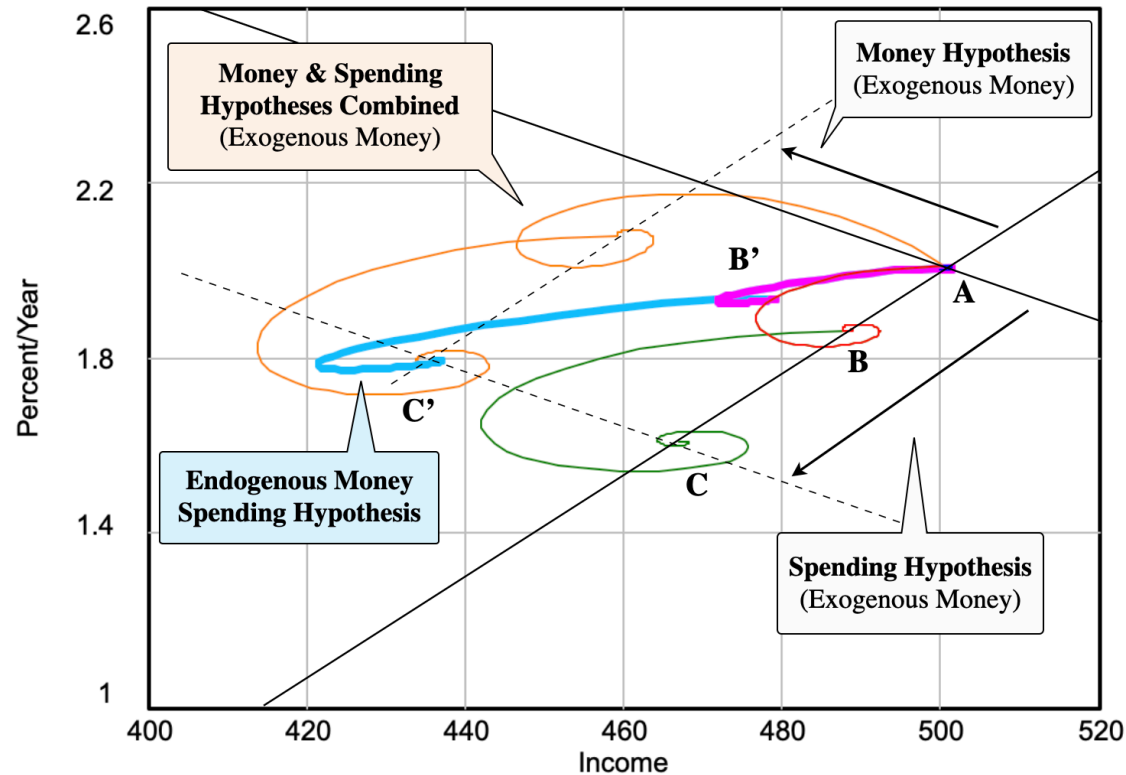
"Interest Rate (nominal)" : IS-I(-)C(-).vdxf

"Interest Rate (nominal)" : IS-I(-) EndoM.vdxf

"Interest Rate (nominal)" : IS-I(-)C(-) EndoM.vdxf

"Interest Rate (nominal)" : LM-M(-).vdxf

IS-LM Analysis of the Great Depression (1929 - 1933) with Endogenous Money (Succeeds)

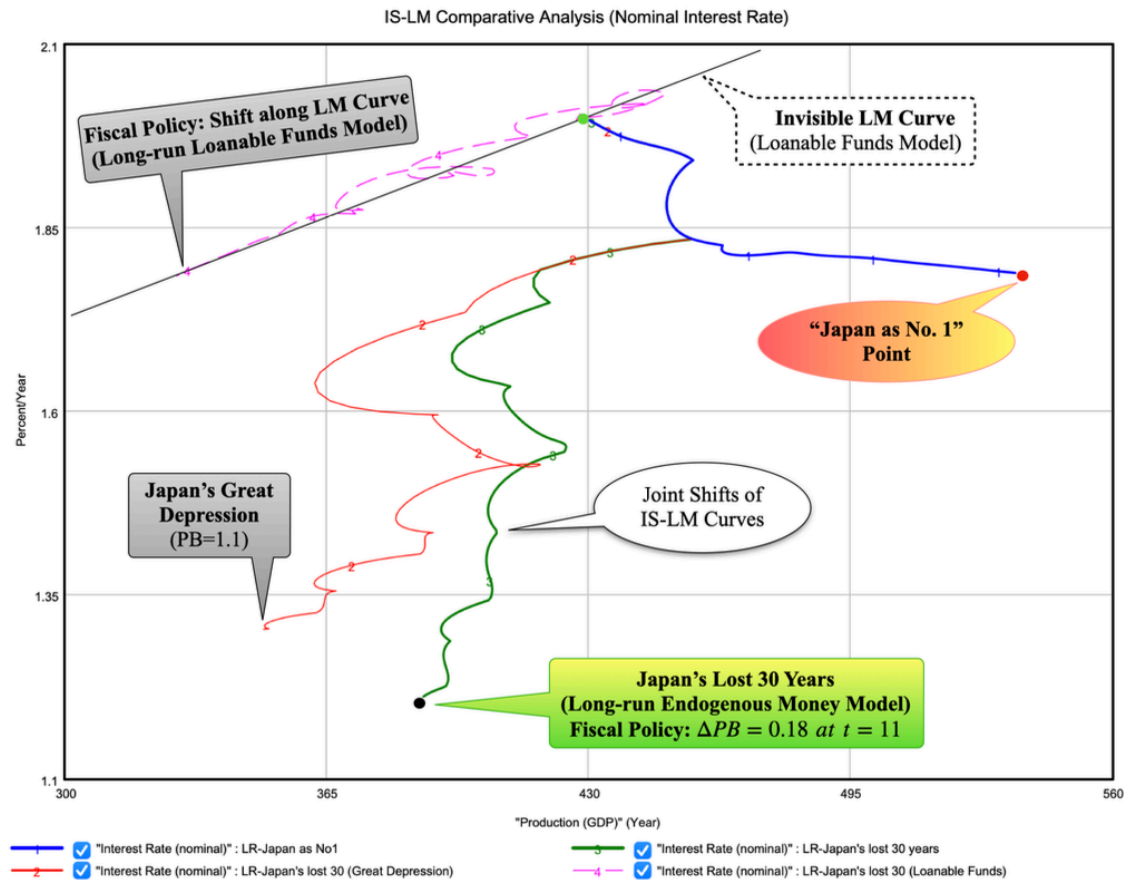


Endogenous Money						
	M^s	P	$\frac{M^s}{P}$	i	r_{ante}	r_{post}
Spending Hypothesis (Case 4)	↓	↓	↑	↓	↓ ↑	↑



Nominal Interest Rate : ISLM Equilibrium.vdxf 1 1 1
 Nominal Interest Rate : IS I(-).vdxf 2 2 2
 Nominal Interest Rate : IS I(-) C(-).vdxf 3 3 3
 Nominal Interest Rate : IS I(-) EndM.vdxf 4 4 4
 Nominal Interest Rate : IS I(-) C(-) EndM.vdxf 5 5 5
 Nominal Interest Rate : IS I(-) C(-) LM M(-).vdxf 6 6 6

IS-LM Analysis of the Japan's Lost 30 Years (1991 - 2020) with Endogenous Money and Budget Equations



Endogenous Money
Analyses
Succeed

with Budget Equations

Figure 19: Point J of Japan's Lost 30 Years