



Bachelor of Economics
THAMMASAT UNIVERSITY

FN 211 Financial Markets

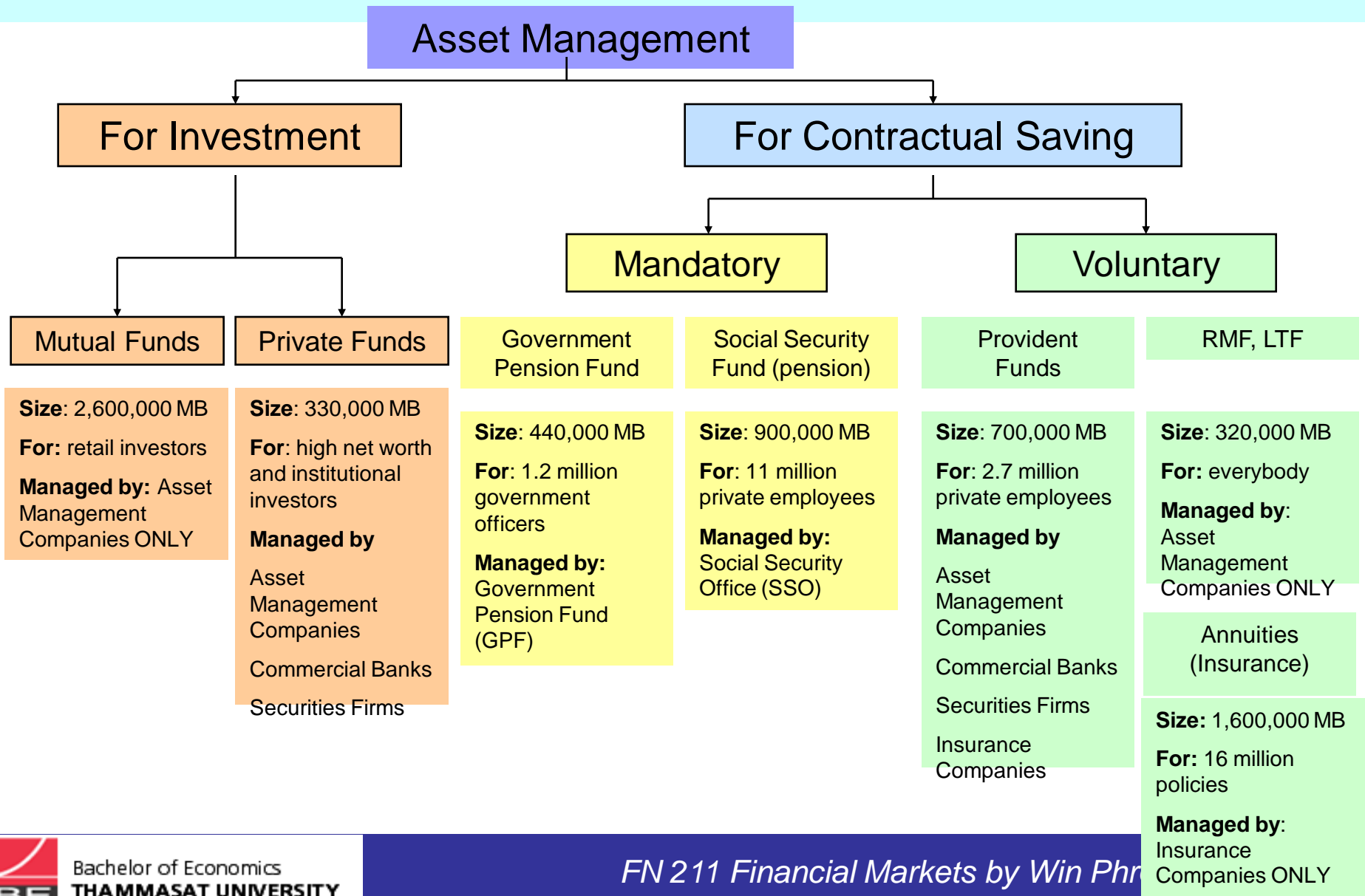
Class 10: Stock Markets

Win Phromphaet, CFA

Today's Outline

- ❖ **Pension Funds: The Basics**
- ❖ **Strategic Asset Allocation**
- ❖ **Major Economic Indicators for Investment Decisions**

The Asset Management Industry as of 31 Dec 2012



Pension Funds: the Basics

Pension funds contain assets that are set aside to support a promise of retirement income. Generally, that promise is made by a private organization or a government. This organization is referred to as a **plan sponsor**.

There are two types of pension funds.

1. **A defined-contribution plan** specifies the sponsor's obligations in terms of contributions to the pension fund rather than the benefits to plan participants.
2. **A defined-benefit plan** is a plan that specifies the plan sponsor's obligations in terms of the benefit to plan participants.

Pension Funds: the Basics

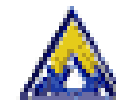
- For a defined-contribution plan, because the benefit is not promised, the participants bear the risk of poor investment results or the benefit is not enough to cover living expenses.

Example: **Government Pension Fund** (covers 1.2 million government officers)



- For a defined-benefit plan, because the sponsor has a financial obligation to pay specified future benefits, the sponsor bears a risk of not being able to make the promise.

Example: **Social Security Fund** (covers 11 million employees of private companies)



สำนักงานประกันสังคม
Social Security Office

Pension Funds: The Government Pension Fund



Government Pension Fund

Contributions: 3% from employer (the government) + 3% from employee

Pension Benefits: Lump sum equals to total contributions plus investment income



Mrs. Somsri, age 45, is a **government officer** and has just become a member of the GPF.

- She has monthly income of B15,000
- Her contribution = $3\% \times 15,000 = \text{B}450$ per month
- Employer Contribution = $3\% \times 15,000 = \text{B}450$ per month
- Total monthly contribution is then 900 Baht per month or 10,800 Baht per year.

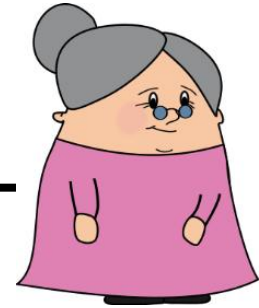
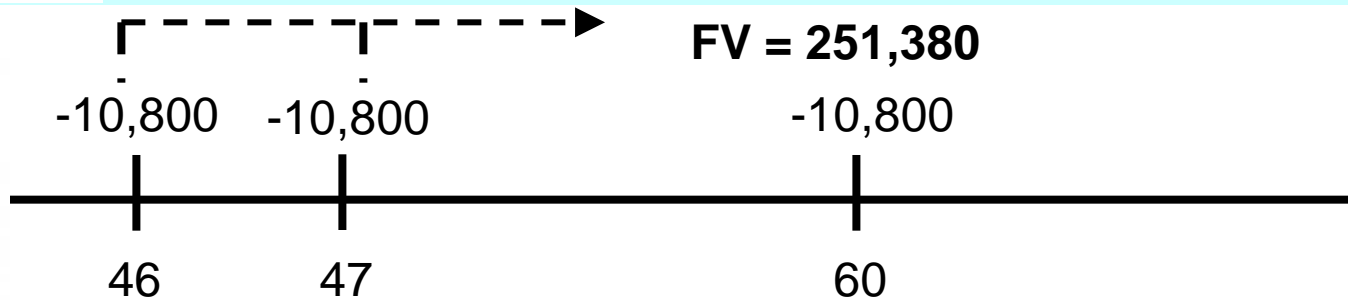
When Mrs. Somsri **retires** at age 60

- Her retirement benefit is a lump sum equal to total contribution plus investment income earned during the contribution period.



กองทุนบำเหน็จบำนาญข้าราชการ

Pension Funds: The Government Pension Fund



Lump sum = 251,380

- Assuming annual investment return of 6% (annual compounding), her contribution of 10,800 per year for 15 years will grow to 251,380 Baht by the time she retires at age 60. (PV = 0, PMT = 10800, N = 15, I = 6, FV = 251,380)
- Her **lump sum pension** will then be **251,380 Baht**.
- As a plan participant, Mrs. Somsri bears the risk that
 - Investment return may be $< 6\%$ or...
 - this lump sum amount may not be enough to cover her living expenses for the rest of her life.

Pension Funds: The Social Security Fund

Social Security Fund

Contributions: 3% from employer + 3% from employee

Pension Benefits:

- Contribute < 15 years
Lump sum equals to contributions plus investment income
- Contribute = 15 years
monthly pension equals to 20% of the average of the last 5 years of salary
- Contribute > 15 years
monthly pension equals to 20% of the average of the last 5 years of salary + bonus equals to 1.5% of the average of the last 5 years of salary for each additional year of contribution

Pension Funds: The Social Security Fund



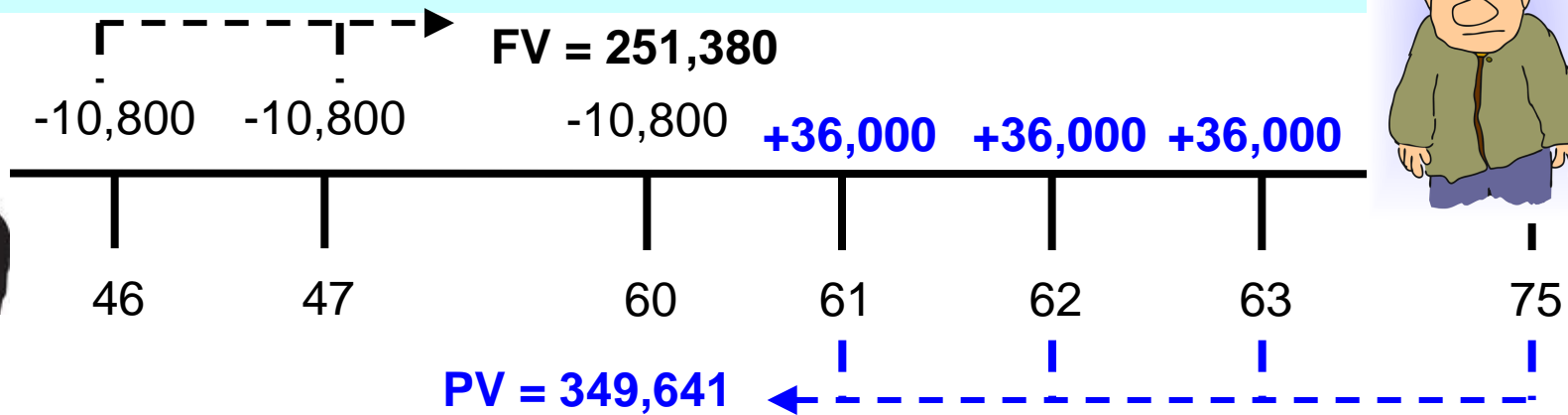
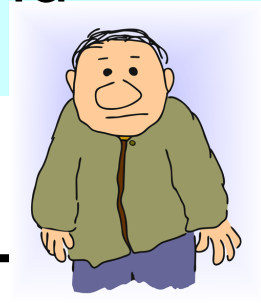
Mr. Somkid, age 45, is an **employee of a private company** and has just become a member of the SSF.

- He has monthly income of B15,000.
- His contribution = $3\% \times 15,000 = \text{B}450$ per month
- Employer Contribution = $3\% \times 15,000 = \text{B}450$ per month
- Total monthly contribution is then 900 Baht per month or 10,800 Baht per year.

When Mr. Somkid **retires** at age 60. (Note that he has contributed for 15 years)

- His retirement benefit = $20\% \times 15,000 = 3,000$ Baht per month or 36,000 Baht per year for the rest of his life.

Pension Funds: The Social Security Fund



- *Mr. Somkid has been contributing B900/month or B10,800/year for 15 years.*
- *He is entitled to monthly pension of 3,000 Baht per month or 36,000 Baht per year for the rest of his life. Although it does not seem much, he is guaranteed to receive this monthly pension even if he lives long until the age of 80, 90 or 100+*
- *Assuming annual investment return of 6% (annual compounding), his contribution of 10,800 per year for 15 years will grow to 251,380 Baht by the time he retires at age 60. ($PV = 0, PMT = 10800, N = 15, I = 6, FV = 251,380$)*
- *Assuming Mr. Somkid passes away at age 75 and a discount rate of 6%, his retirement benefits of 36,000 Baht per year for 15 years have a PV of 349,641 Baht. ($FV = 0, PMT = 36000, N = 15, I = 6, PV = 349,641$)*

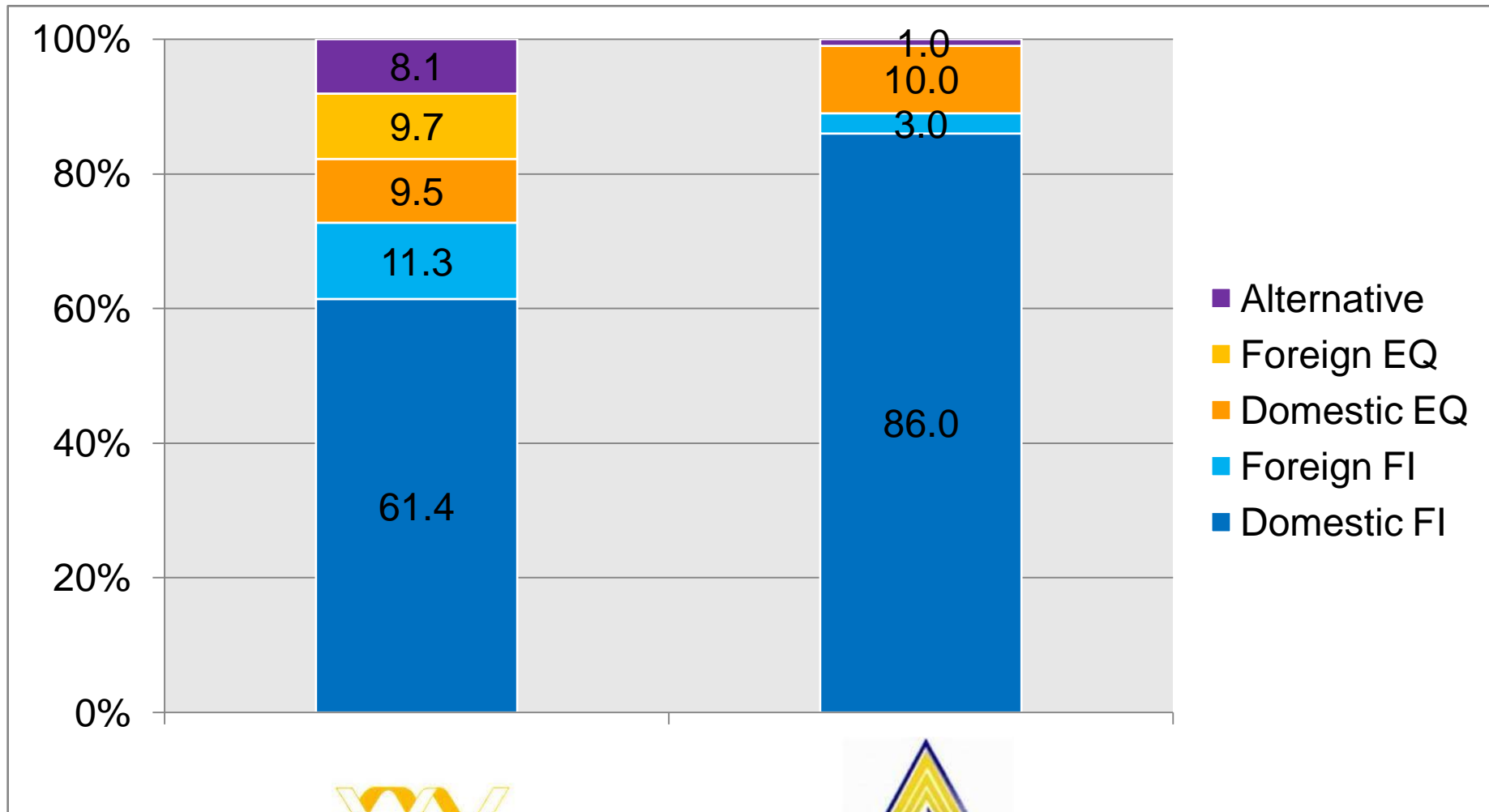
Pension Funds: the Basics

	GPF	SSF
Type	Defined Contribution	Defined Benefit
Contribution Rate	3% employee + 3% employer	3% employee + 3% employer
FV of Total Contribution	251,380	251,380
Benefit	Lump-sum at retirement = 251,380	Monthly pension until death = 3,000 (PV = 349,641 if live for 15 years)
Risk Taker	Participants (Mrs. Somsri)	Plan Sponsor (SSF)

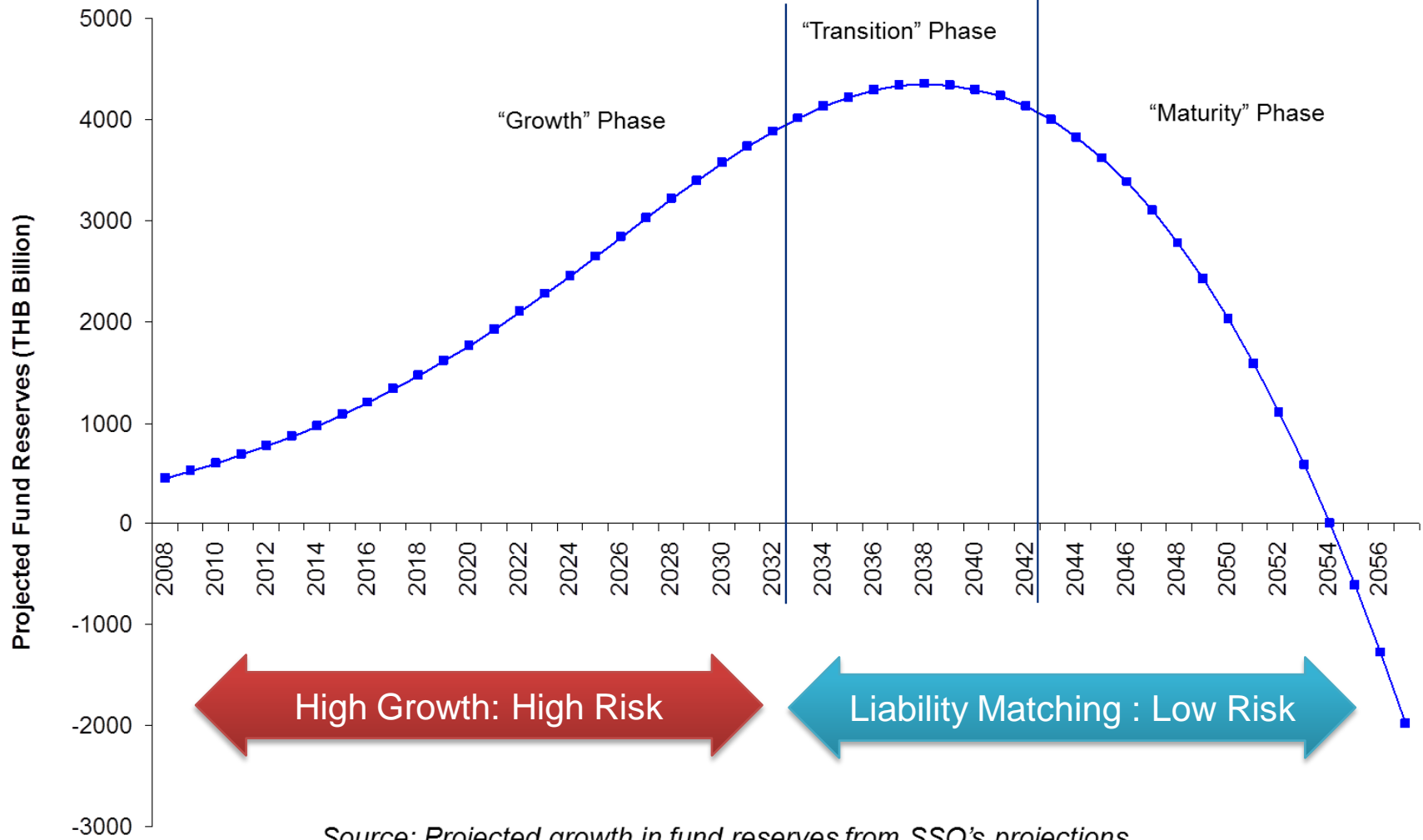
Today's Outline

- ❖ **Pension Funds: The Basics**
- ❖ **Strategic Asset Allocation**
- ❖ **Major Economic Indicators for Investment Decisions**

Asset Allocations as of Dec 2012



Strategic Asset Allocation of the SSF: Assessment of the Liabilities



Source: Projected growth in fund reserves from SSO's projections

Strategic Asset Allocation of the SSF: Return and Risk Objectives

Objectives	Details
Primary Objective	To maximize the expected value of fund reserves at the end of 20 years, subject to an acceptable degree of risk.
Investment Horizon	20 years
Return Objective	5.5% per year
Risk Objectives	<ol style="list-style-type: none"> Short-term : SSO will not tolerate a greater than 5% chance of the return in any one year being below -2% in any year Long-term: SSO will not tolerate a greater than 30% chance of the projected fund reserves being depleted by 2060

Strategic Asset Allocation of the SSF: Candidate Asset Classes (1)

Asset Class	Expected Return (Geometric)	Volatility	Index
Thai Govt Bonds	3.8%	6.7%	ThaiBMA Govt Bond Index
Thai Corp Bonds	4.4%	5.7%	ThaiBMA Corp Bond Index
Global Sovereign (H)	3.6%	5.1%	} Barclays Global Aggregate Index
Global Credit (H)	4.5%	6.8%	
Thai Equities	8.7%	28.9%	SET Index
DM Equities (UH)	6.3%	18.6%	MSCI World Index
EM Equities (UH)	8.5%	26.9%	MSCI EM Index
Real Estate (H)	7.1%	10.3%	NCREIF Property Index
Infrastructure (H)	7.0%	12.4%	UBS Global Infrastructure Index

Strategic Asset Allocation of the SSF: Candidate Asset Classes (2)

Asset Class	Key Return Drivers	Key Risk Factors
Thai Govt Bonds	Income (from Yield)	Interest rate + reinvestment + inflation
Thai Corp Bonds	Income (Yield + Spread)	All of the above + credit
Global Sovereign (H)	Income (from Yield)	All of the above + credit + FX
Global Credit (H)	Income (Yield + Spread)	All of the above + credit + FX
Thai Equities	Income + growth	Price risk + liquidity
DM Equities (UH)	Income + growth	Price risk + liquidity + FX
EM Equities (UH)	Income + growth	Price risk + liquidity + FX
Real Estate (H)	Income	Liquidity + valuation + manager
Infrastructure (H)	Income	Liquidity + valuation + manager + regulation

Strategic Asset Allocation of the SSF: Combinations of Asset Classes

Broad Asset Class	Sub Asset Classes	Currently Invested	Current Investable Assets	Combination 3	All Global Investable Assets
Fixed Income	Thai Government Bonds	✓	✓	✓	✓
	Thai Non-Government Bonds [^]	✓	✓	✓	✓
	Global Sovereigns [^]	✓	✓	✓	✓
	Global Credit [^]	✓	✓	✓	✓
	Global Securitized [^]	✓	✓	✓	✓
	Global Inflation-Linked [^]		✓	✓	✓
	Emerging Markets/Asia [^]	✓	✓	✓	✓
	High Yield				✓
Equities	Thai Public Equities	✓	✓	✓	✓
	Developed Market Public Equities	✓	✓	✓	✓
	Emerging Market Public Equities	✓	✓	✓	✓
	Developed Small Cap & Defensive Equities			✓	✓
	Private Equities			✓	✓
Real Assets	Real Estate	✓	✓	✓	✓
	Infrastructure		✓	✓	✓
Natural Resources	Commodities			✓	✓
	Gold		✓	✓	✓
	Timberland				✓
Hedge Funds	Hedge Funds				✓

Strategic Asset Allocation of the SSF: Combinations of Asset Classes

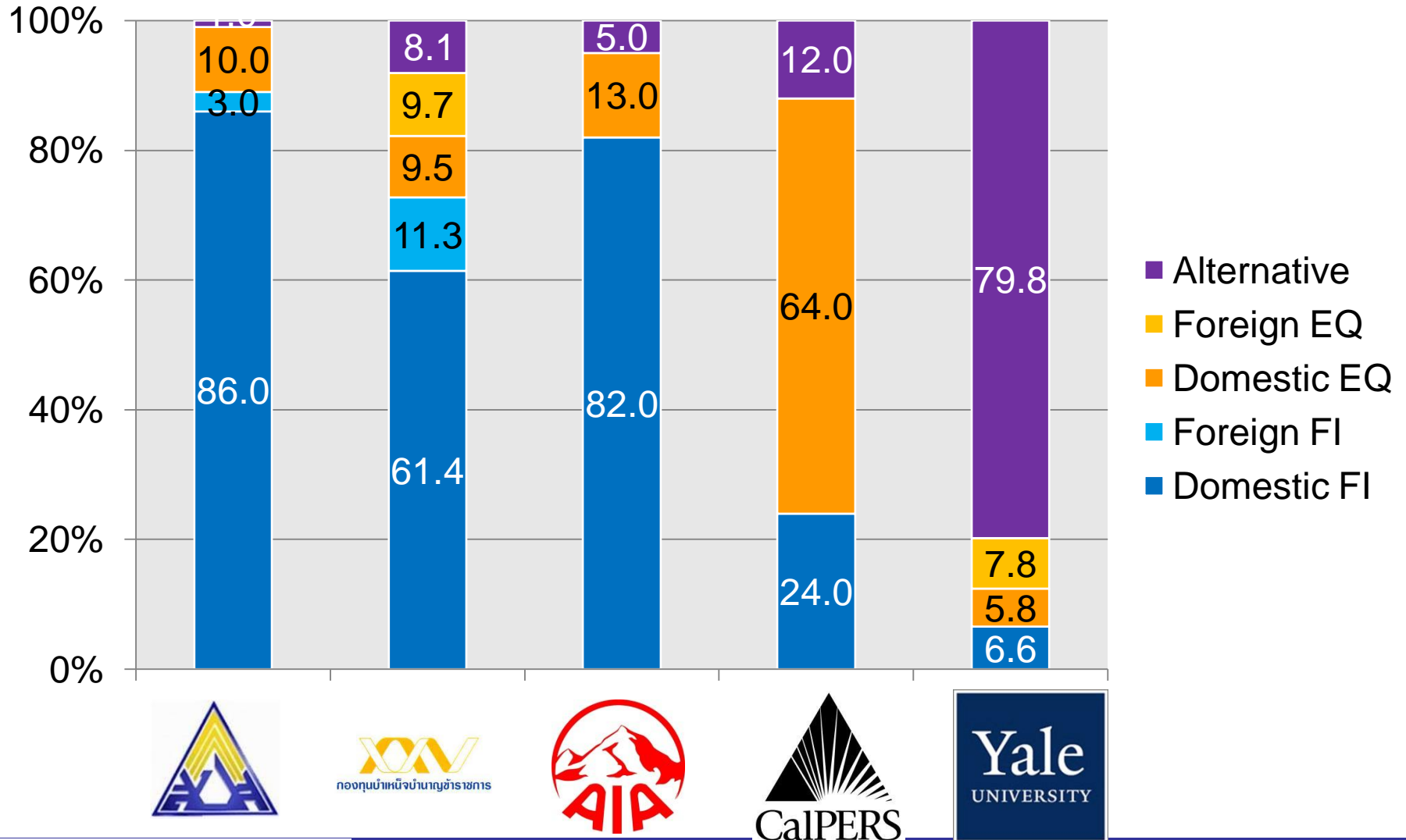
	Equity %	Bonds %	Expected Return	Fund Value in 2031 (Billion THB)	'Worst Case' Return
Current AA	10%	90%	4.6%	3,905.2	-1.3%
4% Return	2%	98%	4.0%	3,517.3	0.5%
4.5% Return	8%	92%	4.5%	3,803.1	-0.7%
5% Return	15%	85%	5.0%	4,169.0	-2.8%
5.5% Return	22%	78%	5.5%	4,573.6	-5.2%
6% Return	30%	70%	6.0%	5,088.6	-8.0%
6.5% Return	37%	63%	6.5%	5,590.7	-10.6%
7% Return	46%	54%	7.0%	6,315.4	-13.9%

Strategic Asset Allocation of the SSF:

Recommended SAA

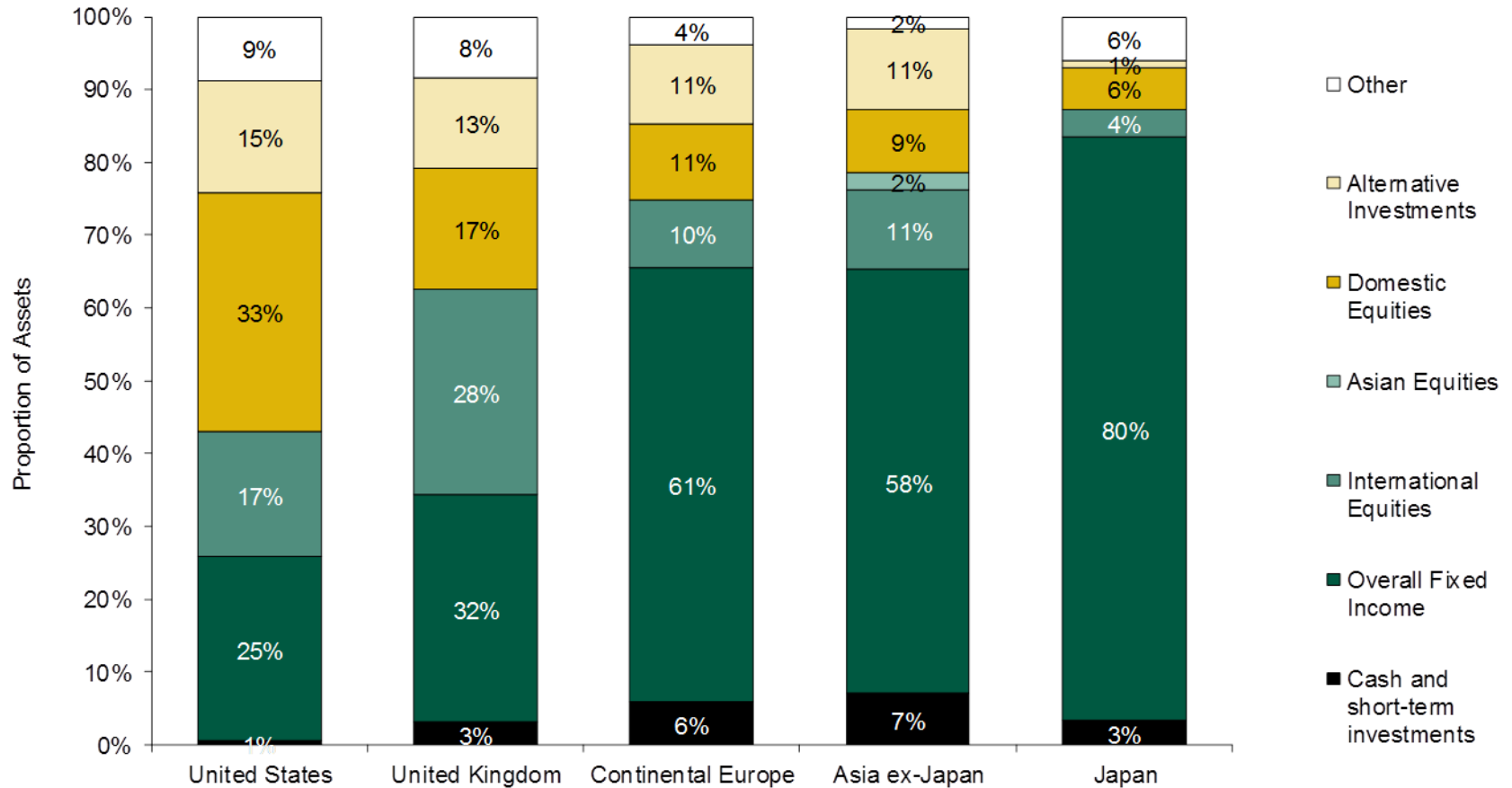
Broad Asset Class	Sub-Asset Class	Current Asset Allocation	Strategic Asset Allocation	Tactical Asset Allocation
Fixed Income	Thai Fixed Income	88.0	51.0	44 - 58
	Global Sovereigns Global Corporates EM Bonds	2.0	16.0	3 - 27
Equities	Thai Equities	9.5	8.0	4 - 12
	DM Equities EM Equities		15.0	3 - 27
Real Assets	Real Estate Infrastructure Commodities	0.5	10.0	0 - 20
Ratio of Low Risk: High Risk Assets		90:10	64:36	
Expected Return		4.5%	5.5%	
Chance of return in any year being below -2%		nil	1 in 20 years	
Chance of Fund Reserves depleted by 2060		57.7%	28.5%	

SAA for various types of Investors



SAA for various types of Investors

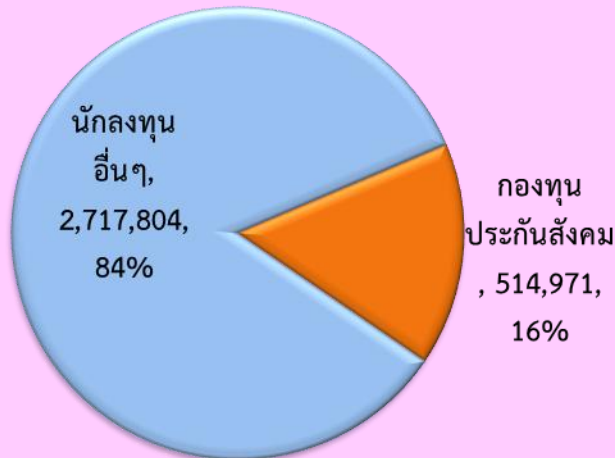
Investors' Total Weighted Asset Mix



Source: Greenwich Associates 2011 Investment Management, IMF-11, Continental Europe Investment Management, CEIMF-11, United Kingdom Investment Management, UKIMF-11, Japan Investment Management, JIMF-11, Asian Investment Management, AIMF-2011

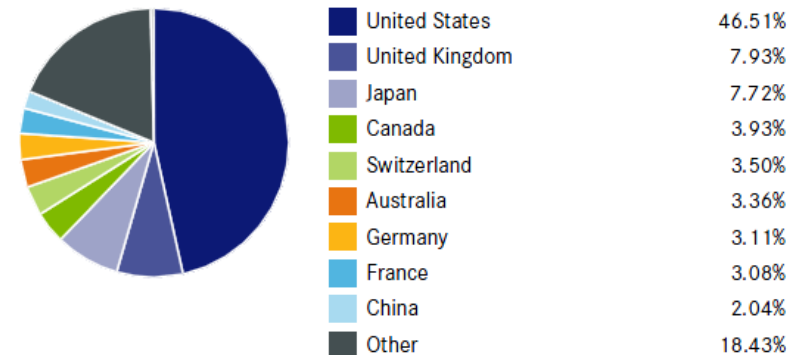
Issues related to SAA

ปริมาณพันธบัตรรัฐบาลในตลาด (Total Government Bond Supply)



Size Does Matter

Holdings by Country



Other countries include: Korea (South) 1.76%, Brazil 1.50%, Taiwan 1.29%, Hong Kong 1.25%, Sweden 1.19%, Netherlands 1.08%, Spain 0.97%, South Africa 0.89%, India 0.74%, Italy 0.70%, Mexico 0.68%, Russian Federation 0.66%, Singapore 0.60%, Malaysia 0.46%, Indonesia 0.42%, Denmark 0.41%, Belgium 0.41%, Netherlands Antilles 0.35%, **Thailand 0.35%**, Norway 0.32%, Finland 0.28%, Chile 0.27%, Turkey 0.26%, Philippines 0.25%, Israel 0.19%, Luxembourg 0.18%, Poland 0.13%, Austria 0.13%, Peru 0.12%, Colombia 0.11%, Czech Republic 0.11%, Ireland 0.09%, Portugal 0.08%, Macau 0.04%, Egypt 0.04%, Hungary 0.04%, Bermuda 0.03%, New Zealand 0.02%, Jersey 0.01%, Cayman Islands 0.01%

Home Bias

Not Worth It : the case of **Private Equity**

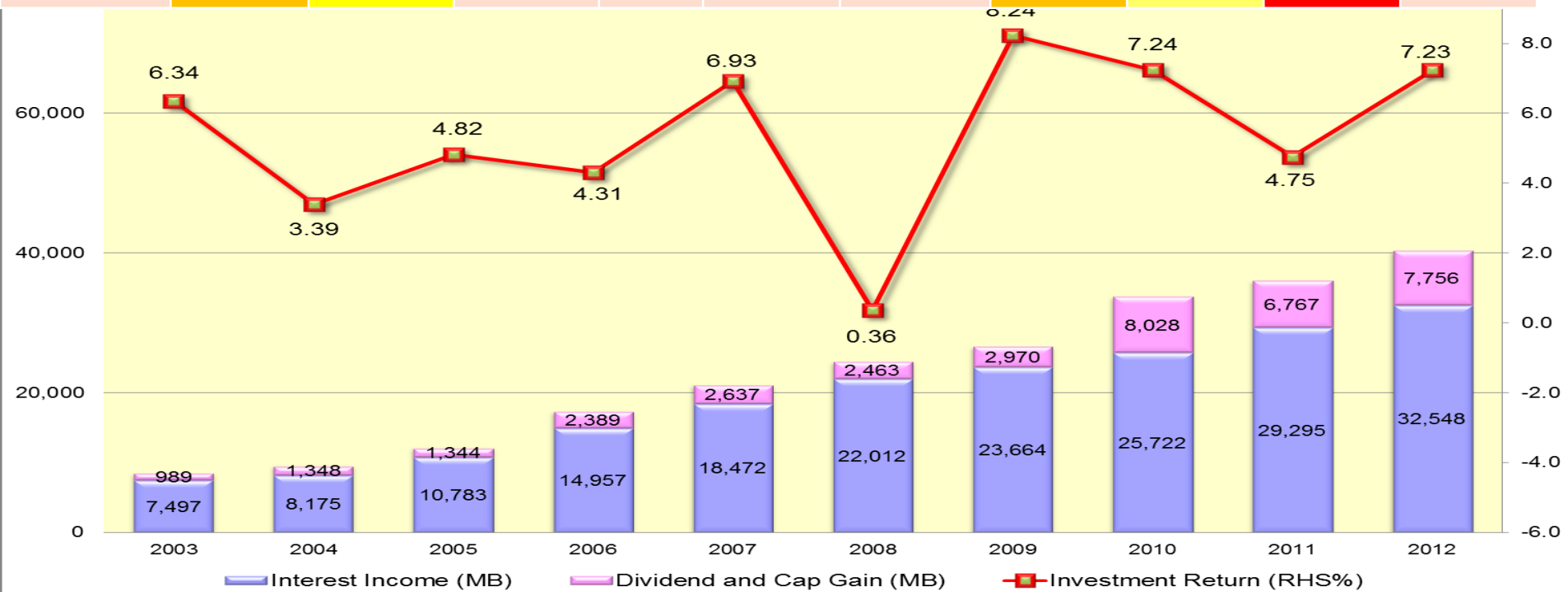
Today's Outline

- ❖ **Pension Funds: The Basics**
- ❖ **Strategic Asset Allocation**
- ❖ **Major Economic Indicators for Investment Decisions**

Asset Class Returns over Time:

We need diversification across **asset classes**

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Politics		Southern Unrest	Bomb in London	Coup	Election	Yellow Shirts	Red Shirts		Arab Spring	
Economics						US Crisis	European Debt Crisis			
Disaster	SARS	Tsunami					H1N1	Haiti	Flood	



ASSET CLASS RETURNS

A 20-Year Snapshot

A DIVERSIFIED PORTFOLIO MAY "SMOOTH" THE RIDE

Ranked Annual Total Returns of Key Indices (1993–2012)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Best	Int'l 32.6%	Int'l 7.8%	Lg Cap Value 38.4%	Lg Cap Growth 23.1%	Lg Cap Value 35.2%	Lg Cap Growth 38.7%	Lg Cap Growth 33.2%	Fixed Income 11.6%	Fixed Income 8.4%	Fixed Income 10.3%	Sm Cap 47.3%	Int'l 20.3%	Int'l 13.5%	Int'l 26.3%	Lg Cap Growth 11.8%	Fixed Income 5.2%	Lg Cap Growth 37.2%	Sm Cap 26.9%	Fixed Income 7.8%	Lg Cap Value 17.5%
	Sm Cap 18.0%	Cash 4.2%	Lg Cap Core 37.6%	Lg Cap Core 23.0%	Lg Cap Core 33.4%	Lg Cap Core 28.6%	Int'l 27.0%	Lg Cap Value 7.0%	Cash 4.4%	Cash 1.8%	Int'l 38.6%	Sm Cap 18.3%	Lg Cap Value 7.1%	Lg Cap Value 22.3%	Int'l 11.2%	Cash 2.1%	Int'l 31.8%	Lg Cap Growth 16.7%	Lg Cap Growth 2.6%	Int'l 17.3%
	Lg Cap Value 18.1%	Lg Cap Growth 2.6%	Lg Cap Growth 37.2%	Lg Cap Value 21.6%	Lg Cap Growth 30.5%	Int'l 20.0%	Sm Cap 21.3%	Cash 6.2%	Sm Cap 2.5%	Div Portfolio -9.8%	Lg Cap Value 30.0%	Lg Cap Value 16.5%	Div Portfolio 5.4%	Sm Cap 18.4%	Fixed Income 7.0%	Div Portfolio -22.8%	Sm Cap 27.2%	Lg Cap Value 15.5%	Lg Cap Core 2.1%	Sm Cap 16.4%
	Div Portfolio 13.3%	Lg Cap Core 1.3%	Sm Cap 28.5%	Sm Cap 16.5%	Sm Cap 22.4%	Div Portfolio 17.0%	Lg Cap Core 21.0%	Div Portfolio -1.1%	Div Portfolio -4.8%	Lg Cap Value -15.5%	Lg Cap Growth 29.8%	Lg Cap Core 10.9%	Lg Cap Growth 5.3%	Lg Cap Core 15.8%	Div Portfolio 6.0%	Sm Cap -33.8%	Lg Cap Core 26.5%	Lg Cap Core 15.1%	Div Portfolio 1.8%	Lg Cap Core 16.0%
	Lg Cap Core 10.1%	Div Portfolio -0.3%	Div Portfolio 27.4%	Div Portfolio 13.6%	Div Portfolio 20.6%	Lg Cap Value 15.6%	Div Portfolio 13.6%	Sm Cap -3.0%	Lg Cap Value -5.6%	Int'l -15.9%	Lg Cap Core 28.7%	Div Portfolio 10.5%	Lg Cap Core 4.9%	Div Portfolio 13.0%	Lg Cap Core 5.5%	Lg Cap Value -36.9%	Div Portfolio 20.8%	Div Portfolio 13.0%	Lg Cap Value 0.4%	Lg Cap Growth 15.3%
	Fixed Income 9.8%	Sm Cap -1.8%	Fixed Income 18.5%	Int'l 6.1%	Fixed Income 9.7%	Fixed Income 8.7%	Lg Cap Value 7.4%	Lg Cap Core -9.1%	Lg Cap Core -11.9%	Sm Cap -20.5%	Div Portfolio 23.5%	Lg Cap Growth 6.3%	Sm Cap 4.6%	Lg Cap Growth 9.1%	Cash 5.0%	Lg Cap Core -37.0%	Lg Cap Value 19.7%	Int'l 7.8%	Cash 0.1%	Div Portfolio 12.2%
	Cash 3.2%	Lg Cap Value -2.0%	Int'l 11.2%	Cash 5.3%	Cash 5.3%	Cash 5.2%	Cash 4.9%	Int'l -14.2%	Lg Cap Growth -20.4%	Lg Cap Core -22.1%	Fixed Income 4.1%	Fixed Income 4.3%	Cash 3.1%	Cash 4.9%	Lg Cap Value -0.2%	Lg Cap Growth -38.4%	Fixed Income 5.9%	Fixed Income 6.5%	Sm Cap -4.2%	Fixed Income 4.2%
Worst	Lg Cap Growth 2.9%	Fixed Income -2.9%	Cash 6.0%	Fixed Income 3.6%	Int'l 1.8%	Sm Cap -2.6%	Fixed Income -0.8%	Lg Cap Growth -22.4%	Int'l -21.4%	Lg Cap Growth -27.9%	Cash 1.2%	Cash 1.3%	Fixed Income 2.4%	Fixed Income 4.3%	Sm Cap -1.6%	Int'l -43.4%	Cash 0.2%	Cash 0.1%	Int'l -12.1%	Cash 0.1%

Source: Informa Investment Solutions. Past performance is no guarantee of future results. The information provided is for illustrative purposes and is not meant to represent the performance of any particular investment. Assumes reinvestment of all distributions. It is not possible to directly invest in an index. Diversification does not guarantee a profit or protect against loss.

■ **Large Cap Core** is represented by the S&P 500 Index, an unmanaged index that consists of the common stocks of 500 large capitalization companies, within various industrial sectors, most of which are listed on the New York Stock Exchange. ■ **Large Cap Growth** is represented by the Russell 1000 Growth Index, which consists of those Russell 1000 Index securities with higher price-to-book ratios and higher forecasted growth rates. ■ **Large Cap Value** is represented by the Russell 1000 Value Index, which consists of those Russell 1000 Index securities with lower price-to-book ratios and lower forecasted growth rates. ■ **Small Cap** is represented by the Russell 2000 Index, which is a market-weighted small capitalization index composed of the smaller 2,000 stocks, ranked by market capitalization, of the Russell 3000 Index. ■ **International** is represented by the Morgan Stanley Capital International (MSCI) EAFE Index, an unmanaged index that measures the total returns of developed foreign stock markets in Europe, Asia and the Far East. ■ **Fixed Income** is represented by the Barclays US Aggregate Bond Index, an unmanaged market-weighted index that consists of investment grade corporate bonds (rated BBB or better), mortgages and US Treasury and government agency issues with at least one year to maturity. ■ **Cash** is represented by the ML US Treasury Bill 3 Month Index, an unmanaged index based on the value of a 3-month Treasury Bill assumed to be purchased at the beginning of the month and rolled into another single issue at the end of the month. US Treasury securities are direct obligations of the US government and are backed by the "full faith and credit" of the US government if held to maturity. ■ **Diversified Portfolio** is composed of 35% of the Barclays US Aggregate Bond Index, 10% of the MSCI EAFE Index, 10% of the Russell 2000 Index, 22.5% of the Russell 1000 Growth Index and 22.5% of the Russell 1000 Value Index.

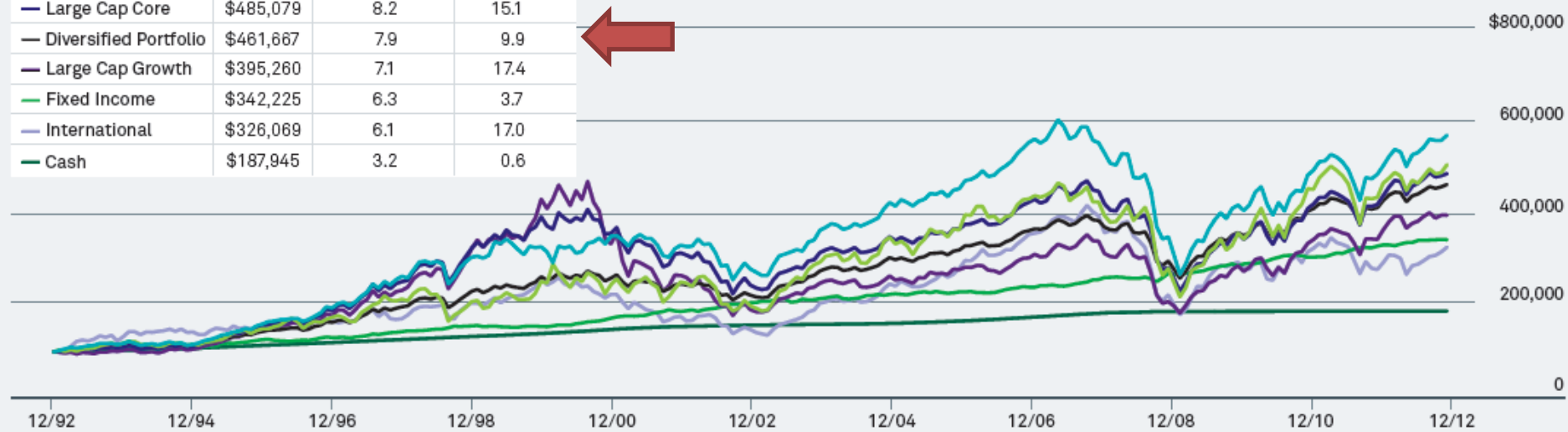
ASSET CLASS RETURNS

Investing for the Long Term

DIVERSIFICATION HAS PROVIDED MORE STEADY PERFORMANCE

Growth of a Hypothetical \$100,000 Investment Over the Last 20 Years (1993-2012)

	\$100,000 Grew to:	Average Annual Returns (%)	Standard Deviation (%)*
Large Cap Value	\$568,293	9.1	15.0
Small Cap	\$504,475	8.4	19.6
Large Cap Core	\$485,079	8.2	15.1
Diversified Portfolio	\$461,667	7.9	9.9
Large Cap Growth	\$395,260	7.1	17.4
Fixed Income	\$342,225	6.3	3.7
International	\$326,069	6.1	17.0
Cash	\$187,945	3.2	0.6



Source: Informa Investment Solutions. Past performance is no guarantee of future results. The information provided is for illustrative purposes and is not meant to represent the performance of any particular investment. Assumes reinvestment of all distributions. It is not possible to directly invest in an index. See front for index descriptions.

* Standard deviations are calculated using monthly returns. Standard deviation is the measure of the total volatility, or risk in a portfolio. Standard deviation tells how widely a portfolio's returns have varied around the average over a period of time.

FOR MORE INFORMATION: www.blackrock.com

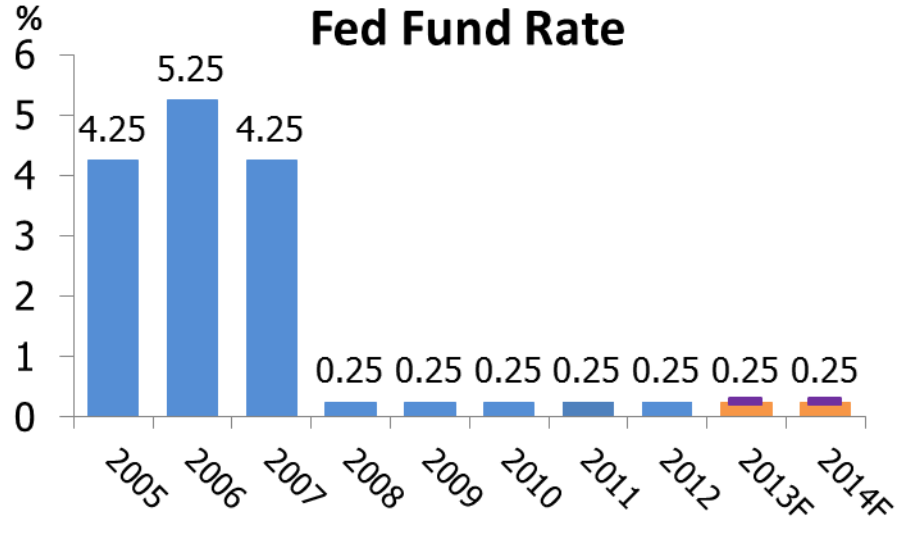
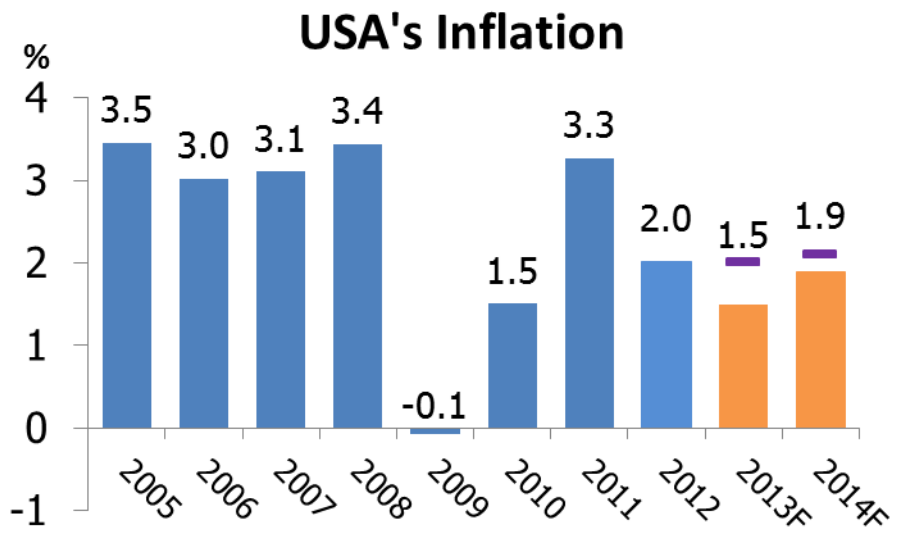
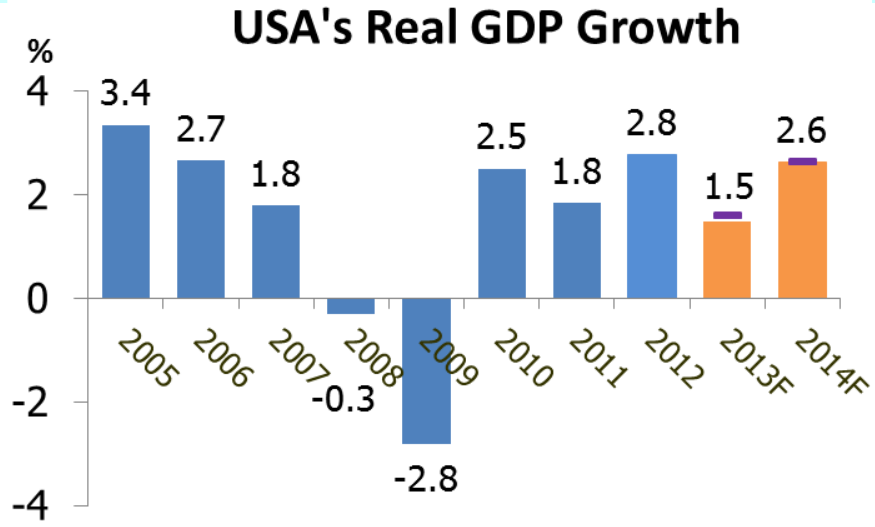
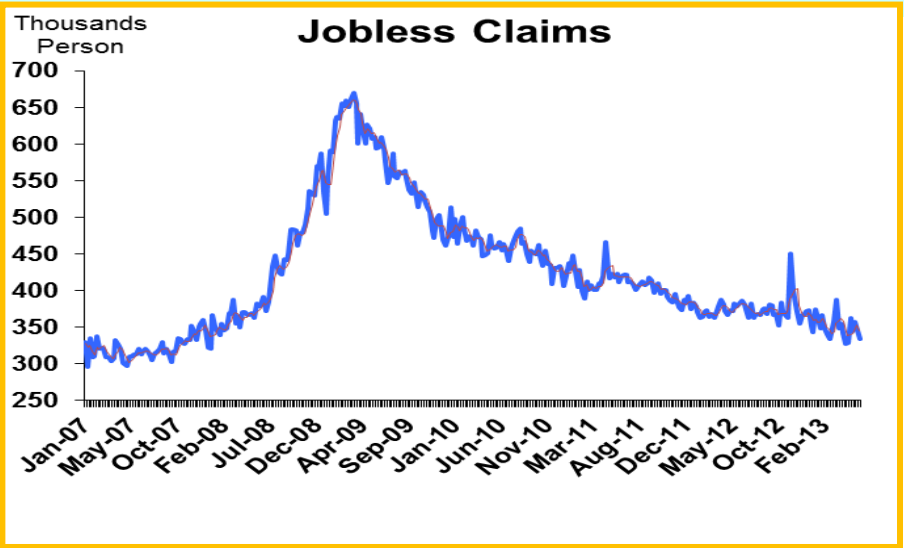
Asset Class Returns over Time:

We also need diversification across countries

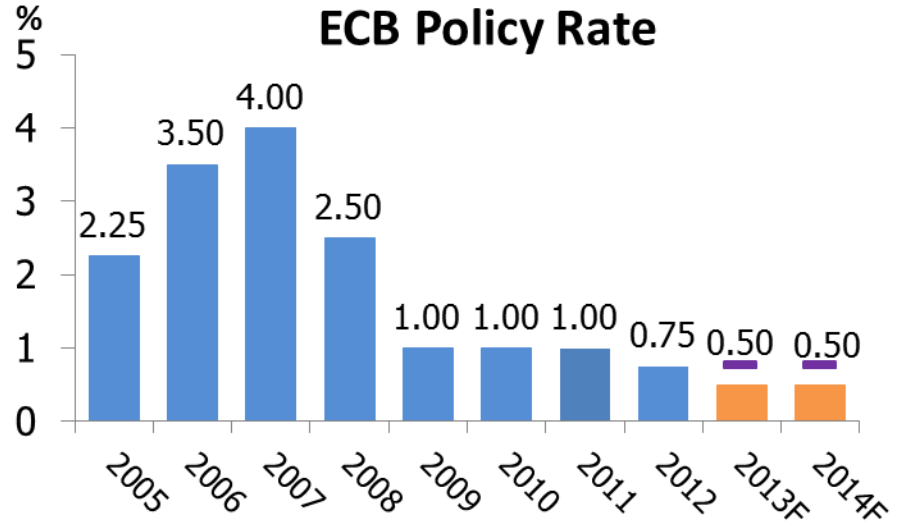
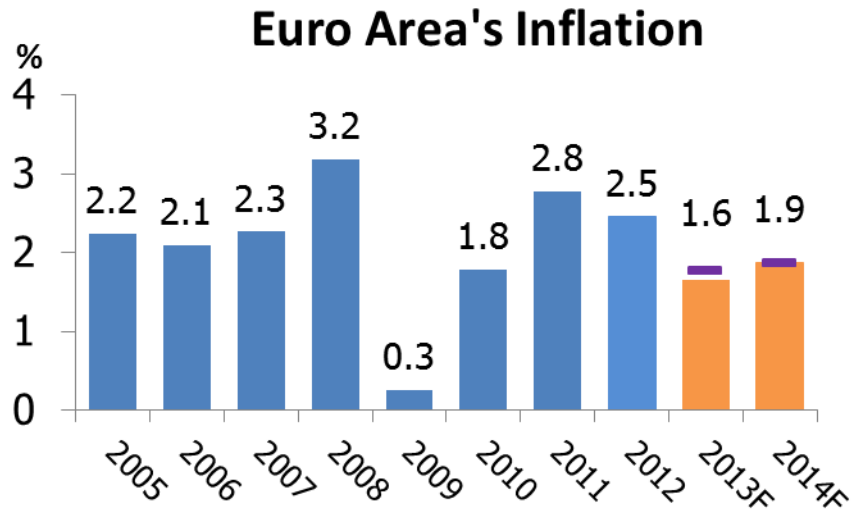
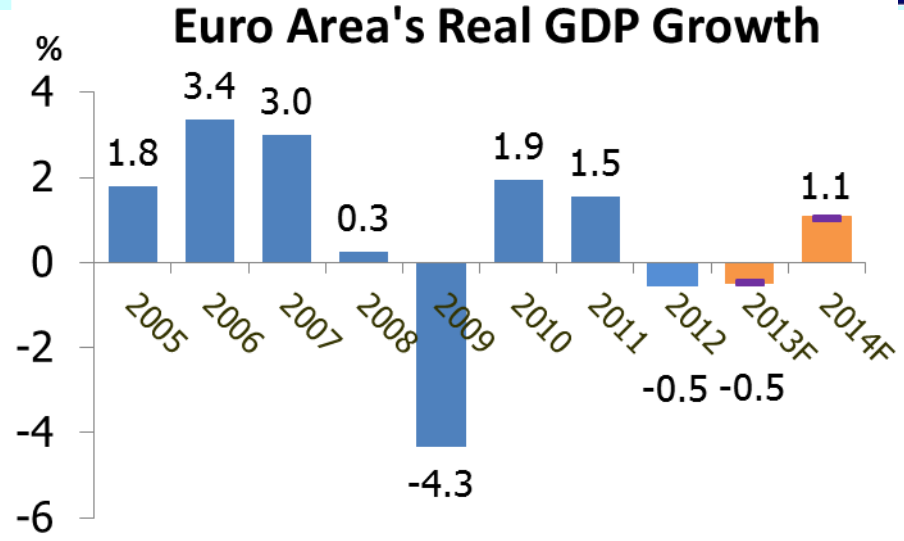
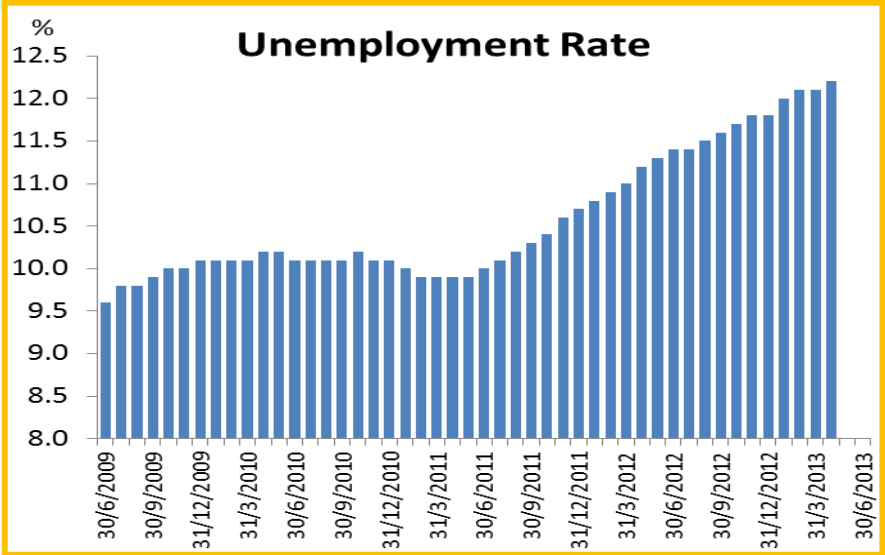
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
	China 162.64%	Colombia 91.27%	Colombia 124.36%	Peru 168.30%	China 58.82%	Chile -22.13%	Russia 124.69%	Peru 64.99%	Philippines 7.65%	Turkey 56.84%
	Thailand 127.21%	Hungary 57.17%	Russia 83.08%	China 98.28%	Indonesia 56.26%	Mexico -22.70%	Argentina 118.21%	Argentina 54.35%	Indonesia 5.40%	Thailand 40.42%
	Argentina 104.20%	Peru 52.37%	Turkey 64.48%	Russia 67.50%	India 48.85%	South Africa -23.06%	Turkey 102.46%	Indonesia 49.52%	Malaysia 4.45%	Philippines 36.45%
	Brazil 97.33%	Indonesia 49.87%	Korea 57.19%	Indonesia 59.59%	Turkey 45.40%	Colombia -26.88%	Peru 100.99%	Thailand 47.04%	Thailand 3.45%	Poland 28.77%
	Turkey 79.61%	Mexico 49.62%	South Africa 47.81%	Mexico 50.72%	Brazil 43.65%	Malaysia -36.23%	Indonesia 92.10%	Philippines 43.26%	South Africa 2.76%	India 27.99%
	India 76.93%	Turkey 34.08%	India 44.68%	India 48.81%	Malaysia 37.82%	Korea -39.66%	Taiwan 83.31%	Chile 37.59%	Mexico -2.39%	South Africa 27.22%
	Peru 74.93%	Philippines 28.67%	Hungary 40.98%	Philippines 46.09%	Peru 36.02%	Brazil -41.22%	India 83.25%	Colombia 36.04%	Korea -10.97%	China 19.74%
	Indonesia 69.01%	Argentina 28.31%	Mexico 40.64%	South Africa 41.57%	Korea 34.68%	Taiwan -43.03%	Brazil 82.66%	Turkey 27.62%	Chile -15.22%	Mexico 19.66%
	Russia 61.40%	Poland 25.66%	Poland 39.64%	Chile 37.10%	Thailand 31.36%	Thailand -45.09%	Hungary 73.40%	Russia 24.72%	Russia -15.31%	Colombia 19.32%
	Chile 48.48%	South Africa 25.47%	Peru 29.43%	Argentina 35.45%	Philippines 23.80%	Poland -46.18%	Thailand 71.35%	Malaysia 23.79%	Colombia -16.54%	Argentina 17.64%
	Colombia 45.49%	Chile 20.99%	Brazil 27.71%	Brazil 32.93%	South Africa 19.46%	Philippines -46.28%	Philippines 71.01%	Korea 23.56%	Peru -16.69%	Indonesia 15.47%
	Mexico 44.40%	Malaysia 18.99%	Indonesia 19.68%	Poland 29.01%	Mexico 14.18%	Argentina -48.68%	China 66.04%	Mexico 21.60%	Taiwan -17.96%	Malaysia 14.40%
	Philippines 43.62%	Brazil 17.81%	Philippines 17.32%	Malaysia 26.69%	Chile 13.31%	Indonesia -49.33%	Colombia 61.41%	India 19.14%	Brazil -18.11%	Taiwan 12.80%
	Poland 34.69%	India 15.37%	China 15.93%	Taiwan 24.45%	Taiwan 12.46%	China -49.88%	Korea 51.80%	South Africa 19.06%	Poland -18.13%	Korea 9.40%
	Taiwan 34.07%	Korea 13.86%	Argentina 12.21%	Colombia 20.61%	Russia 11.54%	Turkey -50.08%	Chile 50.71%	Poland 18.43%	China -19.65%	Russia 9.04%
	Korea 32.15%	Russia 7.29%	Thailand 11.22%	Hungary 19.53%	Poland 8.81%	India -51.80%	Malaysia 49.95%	Taiwan 13.43%	Hungary -20.41%	Brazil 7.40%
	Malaysia 27.19%	Taiwan 6.68%	Taiwan 10.37%	Korea 6.14%	Hungary 5.60%	Hungary -53.34%	Mexico 46.19%	China 1.74%	Turkey -20.49%	Hungary 7.06%
	Hungary 20.28%	China -2.94%	Chile 9.35%	Turkey 0.33%	Argentina 2.93%	Peru -59.78%	Poland 38.53%	Brazil 1.04%	India -23.64%	Peru 5.94%
	South Africa 16.19%	Thailand -10.57%	Malaysia 3.85%	Thailand -0.29%	Colombia -2.75%	Russia -67.10%	South Africa 32.07%	Hungary 0.47%	Argentina -27.32%	Chile 2.96%

Source: Bloomberg

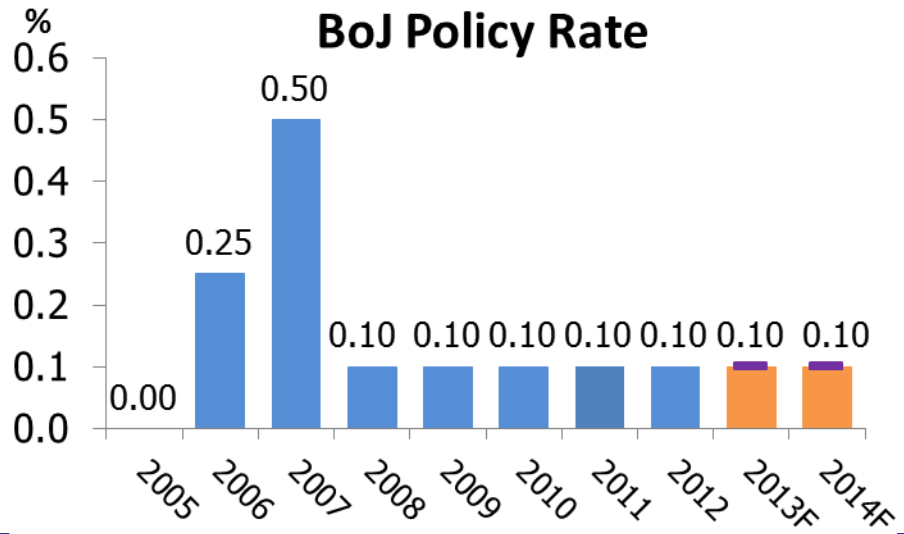
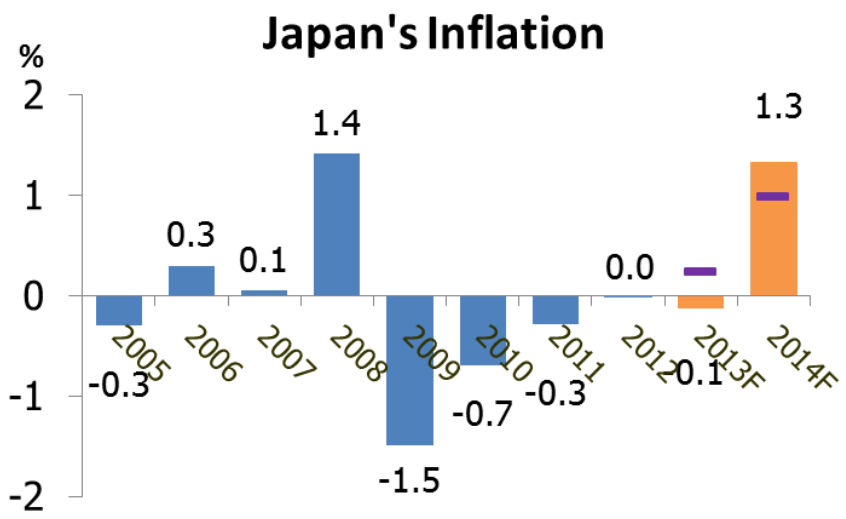
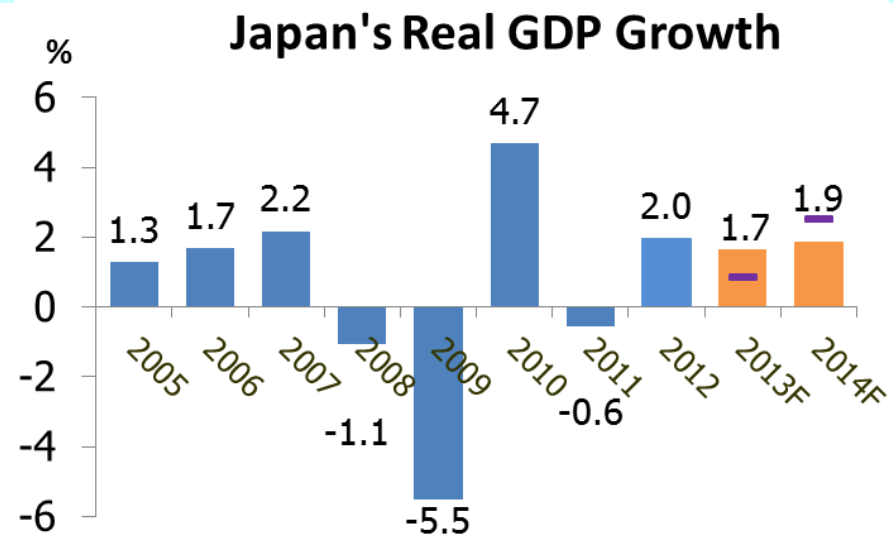
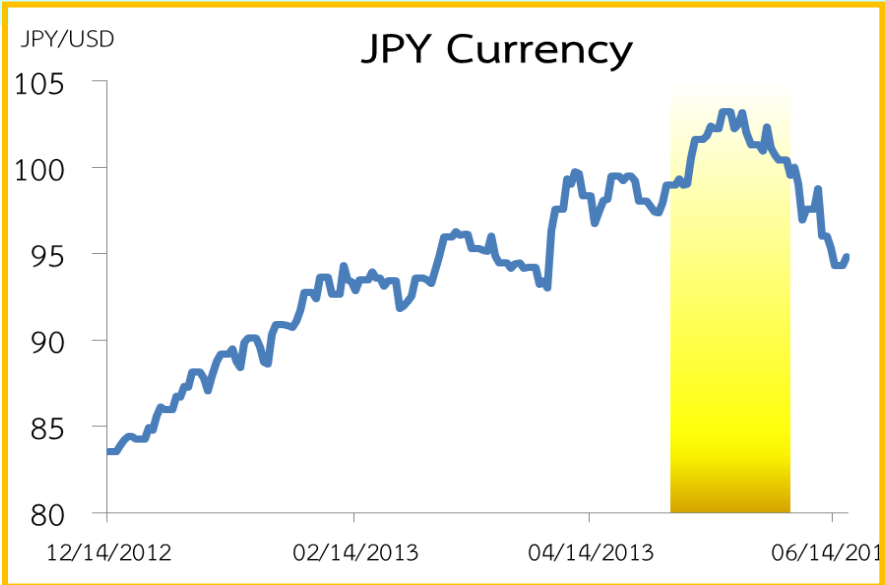
SSO Global Outlook : USA



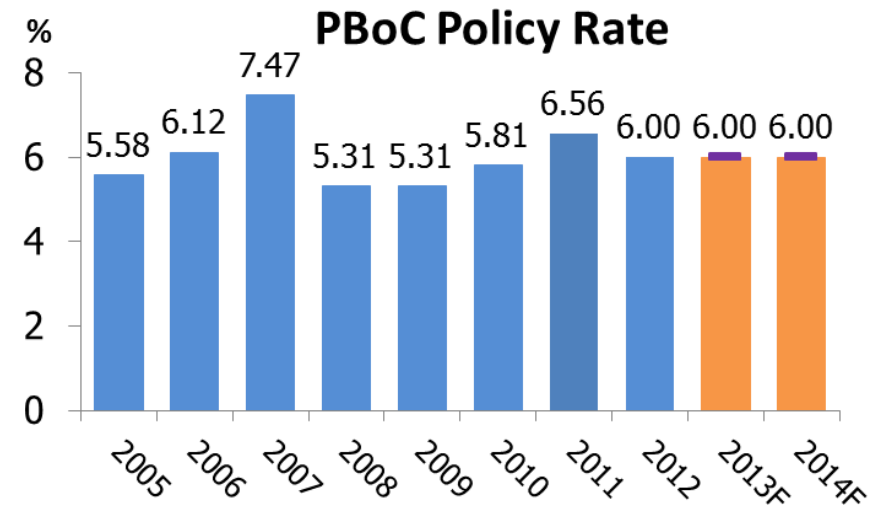
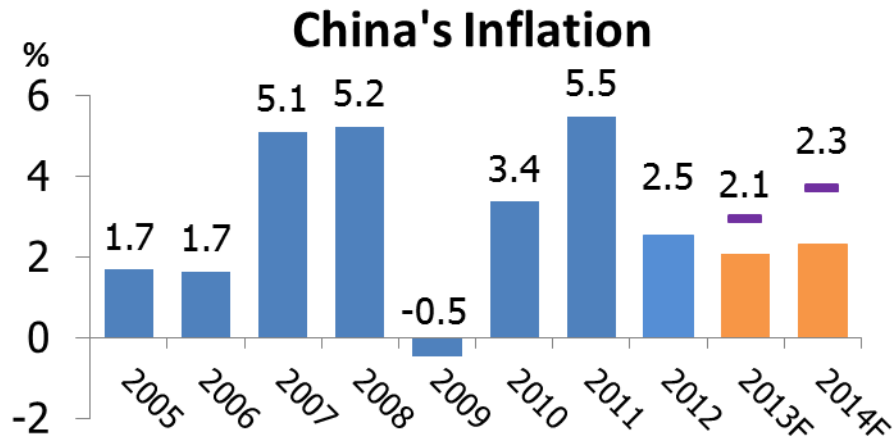
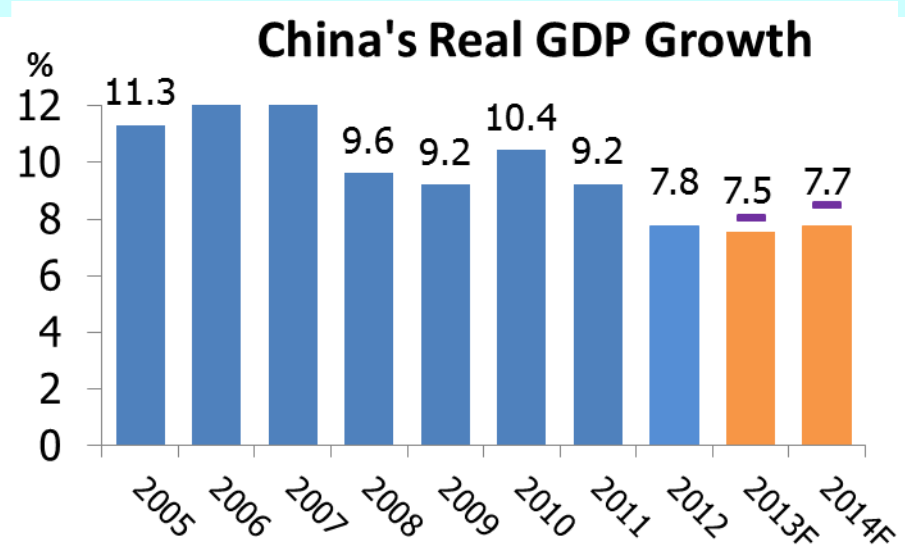
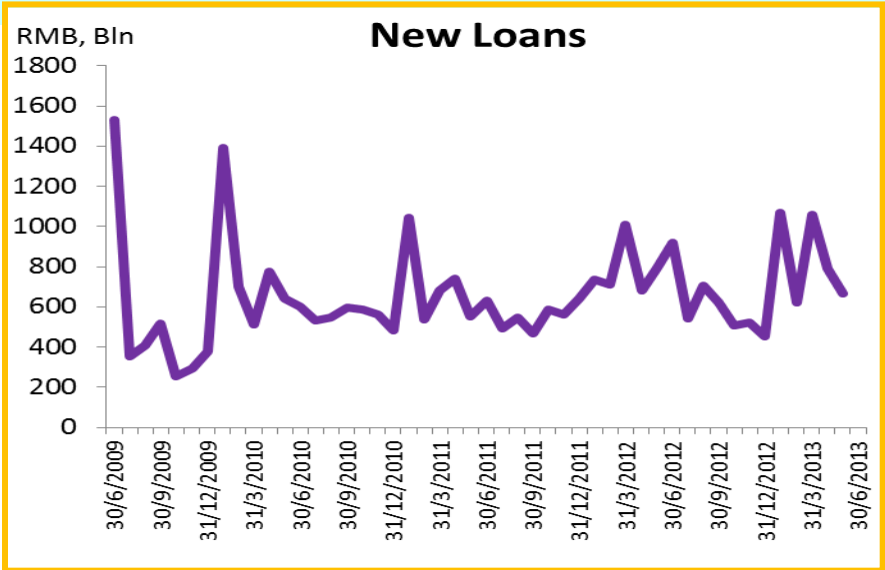
SSO Global Outlook : Euro Zone



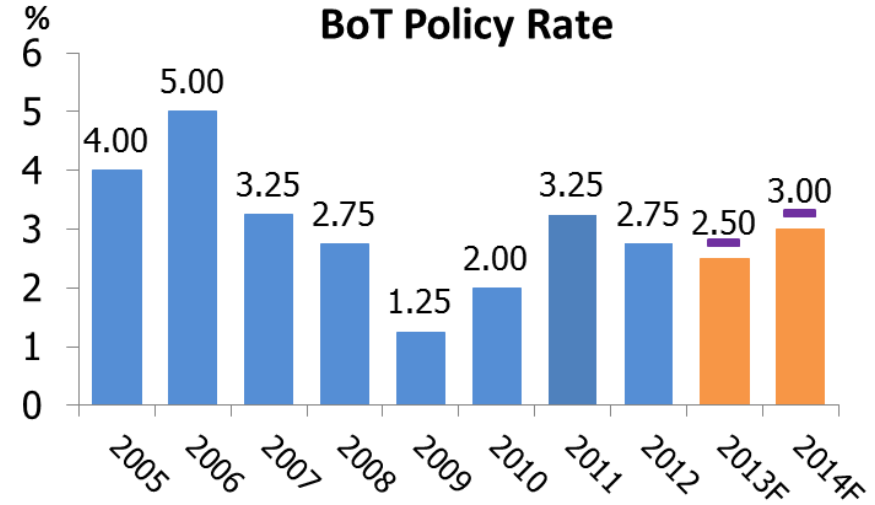
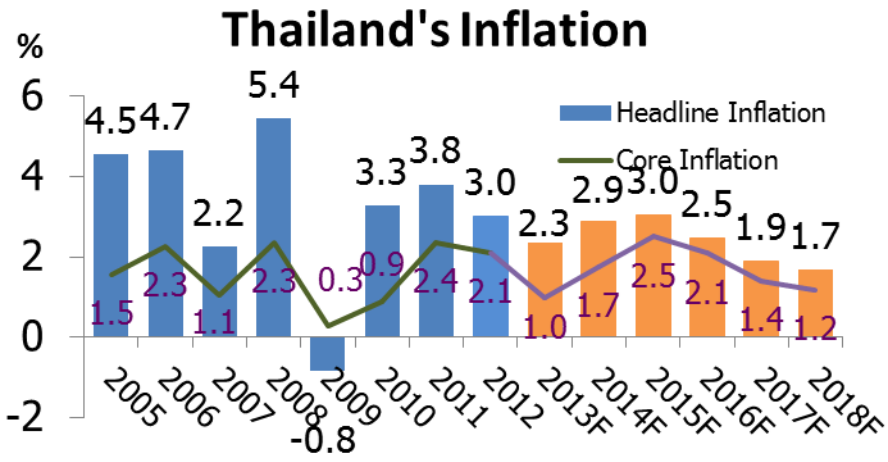
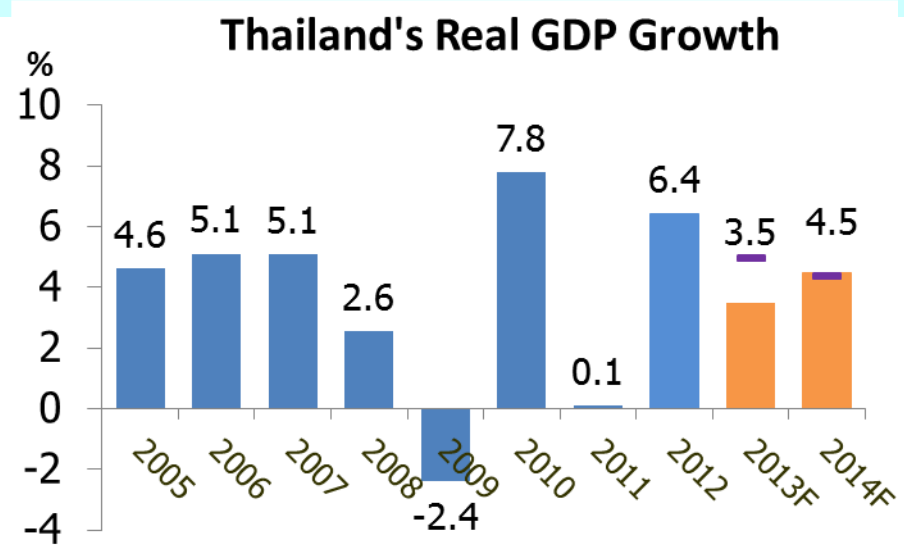
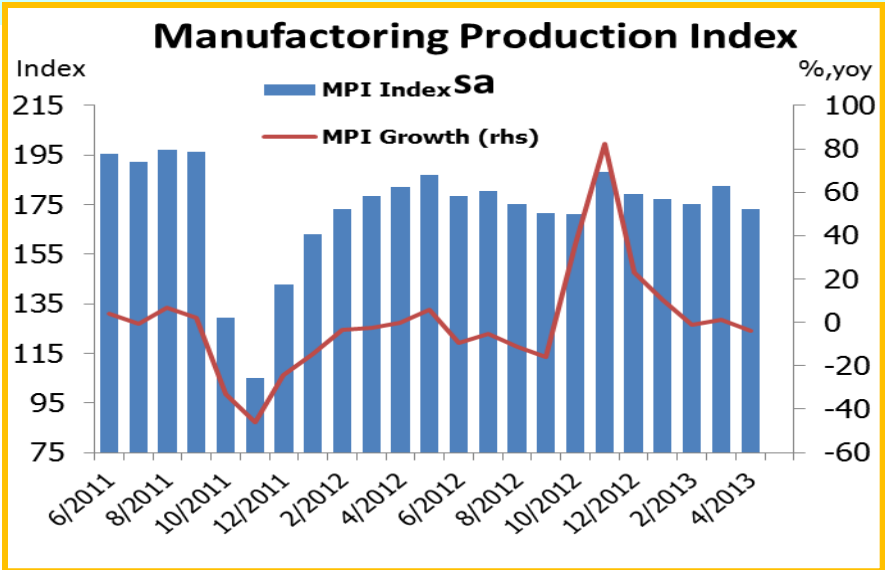
SSO Global Outlook : Japan



SSO Global Outlook : China



SSO Global Outlook : Thailand



Investment Themes for Long-term Investors



Urbanization



Rising Income of
the Middle Class



Aging Population

Investment Themes for LT Investors

Q2 | June 30, 2013

MFS® GLOBAL EQUITY FUND



TOP 10 HOLDINGS

- Walt Disney Co

 - Linde AG

 - Nestle SA

 - Reckitt Benckiser Group PLC

 - Honeywell International Inc

 - Diageo PLC

 - Visa Inc

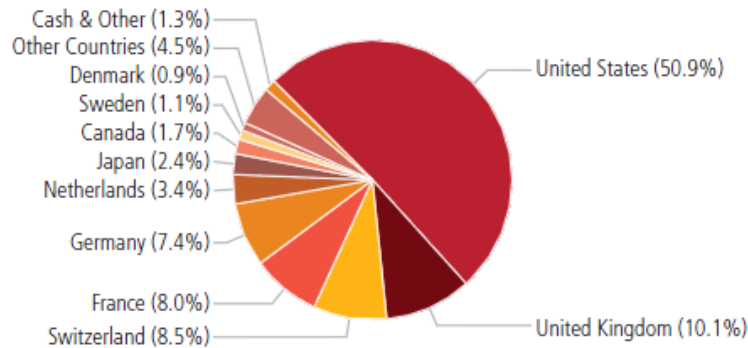
 - Heineken NV

 - State Street Corp

 - Thermo Fisher Scientific Inc

- 24.8% of total net assets**

COUNTRY WEIGHTS AS OF 06/30/13



Cash and other assets are less liabilities.

