

Finance (Basic)

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Personal Finance

- ❑ Monetary decisions of an individual (family).
- ❑ Analyses how the individuals (family unit) obtain, budget, save and spend money.
- ❑ The personal income could be allocated towards **expenses, saving, debt repayment.**

Sample budget

Example of budgeted allocation

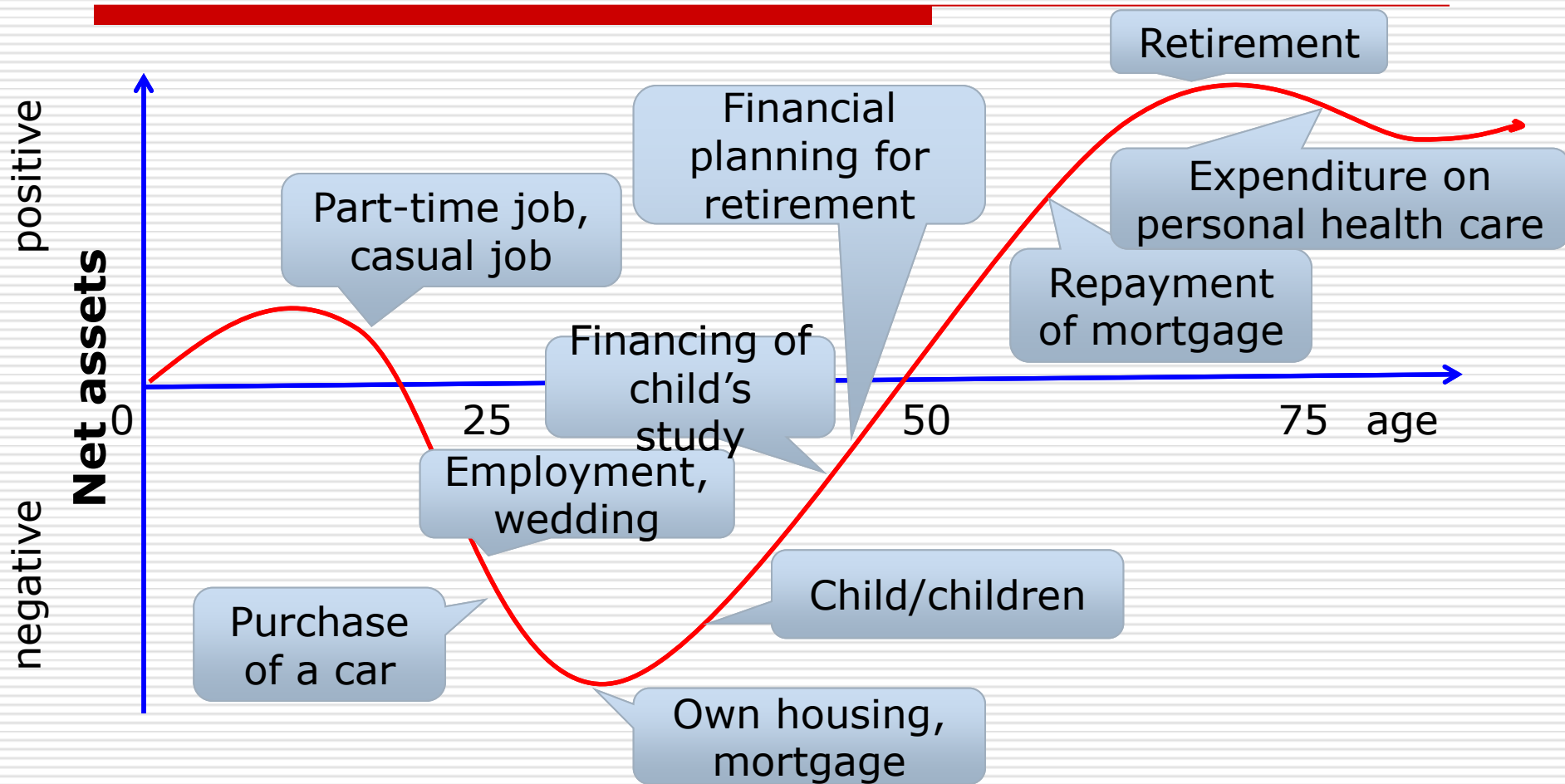
Category	Monthly amount	Annual amount	Percentage
<i>Housing</i>			
<i>Food</i>			
<i>Automobile</i>			
<i>Tax</i>			
<i>Insurance</i>			
<i>School</i>			
<i>Medical</i>			
<i>Clothing</i>			
<i>Saving</i>			

What happened if the total expenses are not equal to the total income?

The phases of personal finance by age

- Phase of low saving
- Phase of debt
- Phase of investment
- Phase of use accumulated wealth

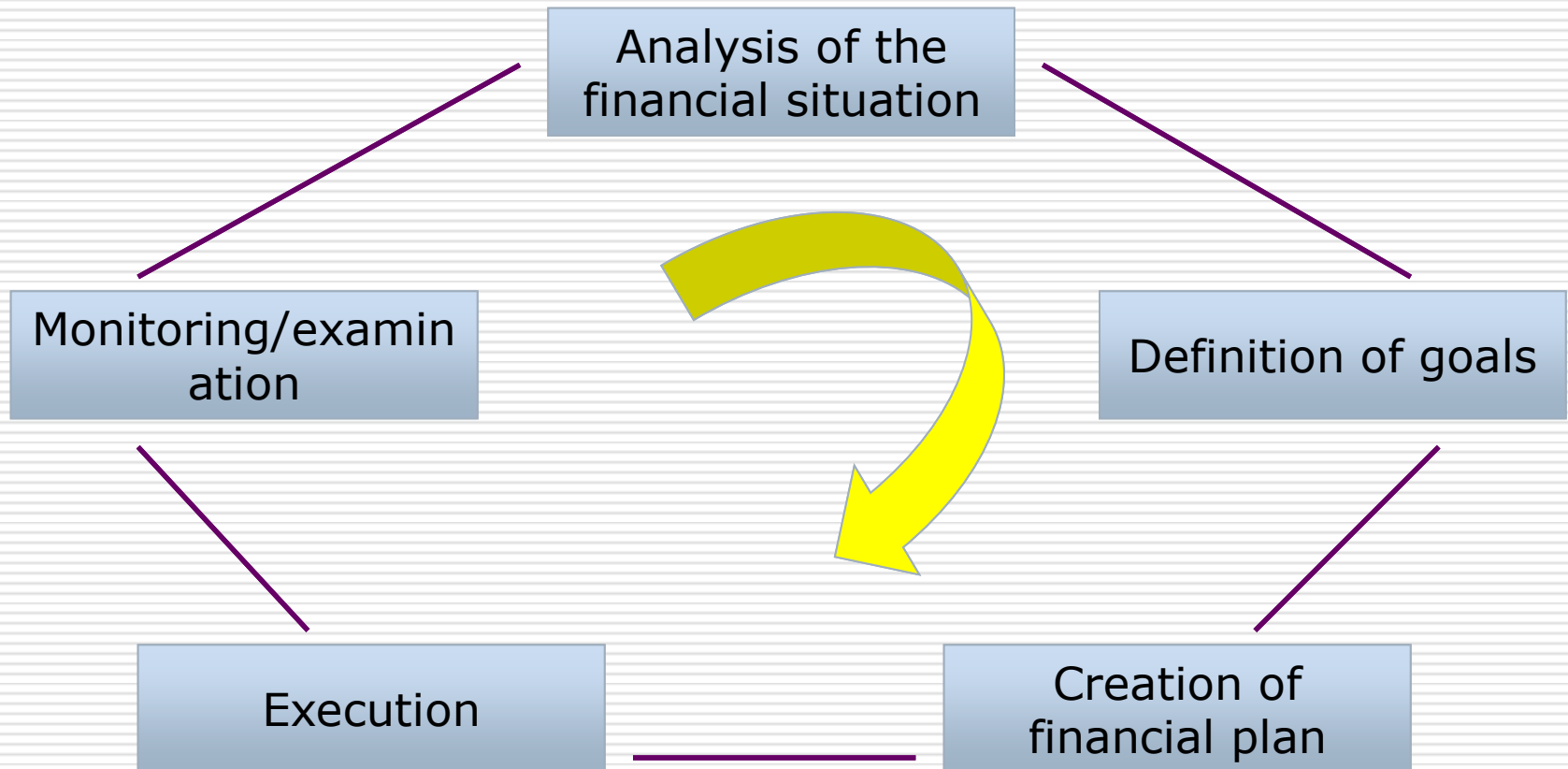
The phases of personal finance by age



Personal financial planning

- ❑ Assessment
- ❑ Setting goals
- ❑ Creating a plan
- ❑ Execution
- ❑ Monitoring/Reassessment

Personal financial planning



Saving

- Regular payment over time
- The task is to identify FV

Categories of saving:

- Long-term
- Short-term:
 - *Ahead a period*
 - *After a period*

Short-term Saving, ahead a period

$$S_x = m \cdot x \cdot \left(1 + \frac{m+1}{2 \cdot m} \cdot i \right)$$

S ... total amount saved

m ... *number of deposits*

x ... *amount of money*

i ... *interest rate*

Short-term Saving, after a period

$$S'_x = m \cdot x \cdot \left(1 + \frac{m-1}{2 \cdot m} \cdot i \right)$$

Long-term Saving

$$S' = a \cdot \frac{(1+i)^n - 1}{i}$$

a ... annuity (a regular payment of a same amount)

Combined Saving

Ahead a period

$$S = m \cdot x \cdot \left(1 + \frac{m+1}{2 \cdot m} \cdot i\right) \cdot \frac{(1+i)^n - 1}{i}$$

After a period ?

Retirement plan

Pension is a way to ensure a regular income for people, which are no longer earning a regular income from employment.

Retirement plane (individuals, employers, unions, insurance companies, government).

The main types of income in Retirement plan

- ❑ Immediate income:
 - *Ahead a period*
 - *After a period*
- ❑ Deferred income
- ❑ Income paid m -times a year
- ❑ Perpetual income

- ❑ **The task is to identify PV**

Immediate Income

Ahead a period

$$D = a \cdot \frac{1 - v^n}{v \cdot i}$$

v ... $1/(1+i)$

D ... *present value of total income*

After a period

Income paid m-times in one IP

Ahead a period

$$D = m \cdot x \cdot \left(1 + \frac{m+1}{2 \cdot m} \cdot i \right) \cdot \frac{1 - v^n}{i}$$

After a period

Deferred Income (ahead a period)

$$K = m \cdot x \cdot \left(1 + \frac{m+1}{2 \cdot m} \cdot i\right) \cdot \frac{1-v^n}{i} \cdot v^k$$

v^k ... postponement of income payment

Perpetual Income

Immediately

$$D = m \cdot x \cdot \left(1 + \frac{m+1}{2 \cdot m} \cdot i\right) \cdot \frac{1}{i}$$

Deferred

Repayment plan

Consists of:

Debt, Annuity, Interest, Amortization

Amortization of debt:

- Equal annuity
- Unequal annuity

Thank you for your attention
