Digitization and You

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A Macro Perspective on Digitization's Impact

- Digitization's impact on political systems
- Digitation impact on the economy
- The Digitization of almost everything
- Digitization as a two edged sword
- Who decides?

What is Digitization?
How is it Enabled?

- Digitization is about taking information and converting it all into ones and zeroes –In other words- into a stream of bits, where it can be stored in a computer, analyzed, reformulated, often repurposed and transmitted over a network.

- Digital technologies are those that have hardware, software and networks at their core.

- Digitization becomes enabled by information technology (IT).

Digitization's Transformative Impact is Accelerating.
Why and How?

What Can we Learn from the Evolution of Console Video Games

Big Data and Agriculture

- Big data is a term for any collection of data sets so large and complex that it becomes difficult to process using traditional data processing applications. The challenges include analysis, capture, long term data preservation, search, sharing, storage, transfer, visualization, and privacy considerations

Prescriptive Planting is a system which tells farmers precisely which crops to plant, which seeds to plant, how deep to plant them, optimum distance between rows, and how to cultivate them in each farm patch.

Analysis and repurposing of Big Data enables this system.

Prescriptive Planting: The Challenges of Implementation

Japanese Indoor Hydroponic Farming

- The case of Fujitsu's low potassium vegetable hydroponic farming

What is Holding Back Japan From Making Stronger Contributions to Digitization Enabled Innovations?

Its SOFTWARE Capabilities

IT As New 3k Jobs in Japan Versus Its High Standing in the U.S.

Computer Science Standing Among Engineering Disciplines in Japan Versus U.S.

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Importance for Japan

- Why is it important that the best and the brightest students major in IT related fields?

- Why is it important for Japan that it excel in digitization enabled IT innovations?
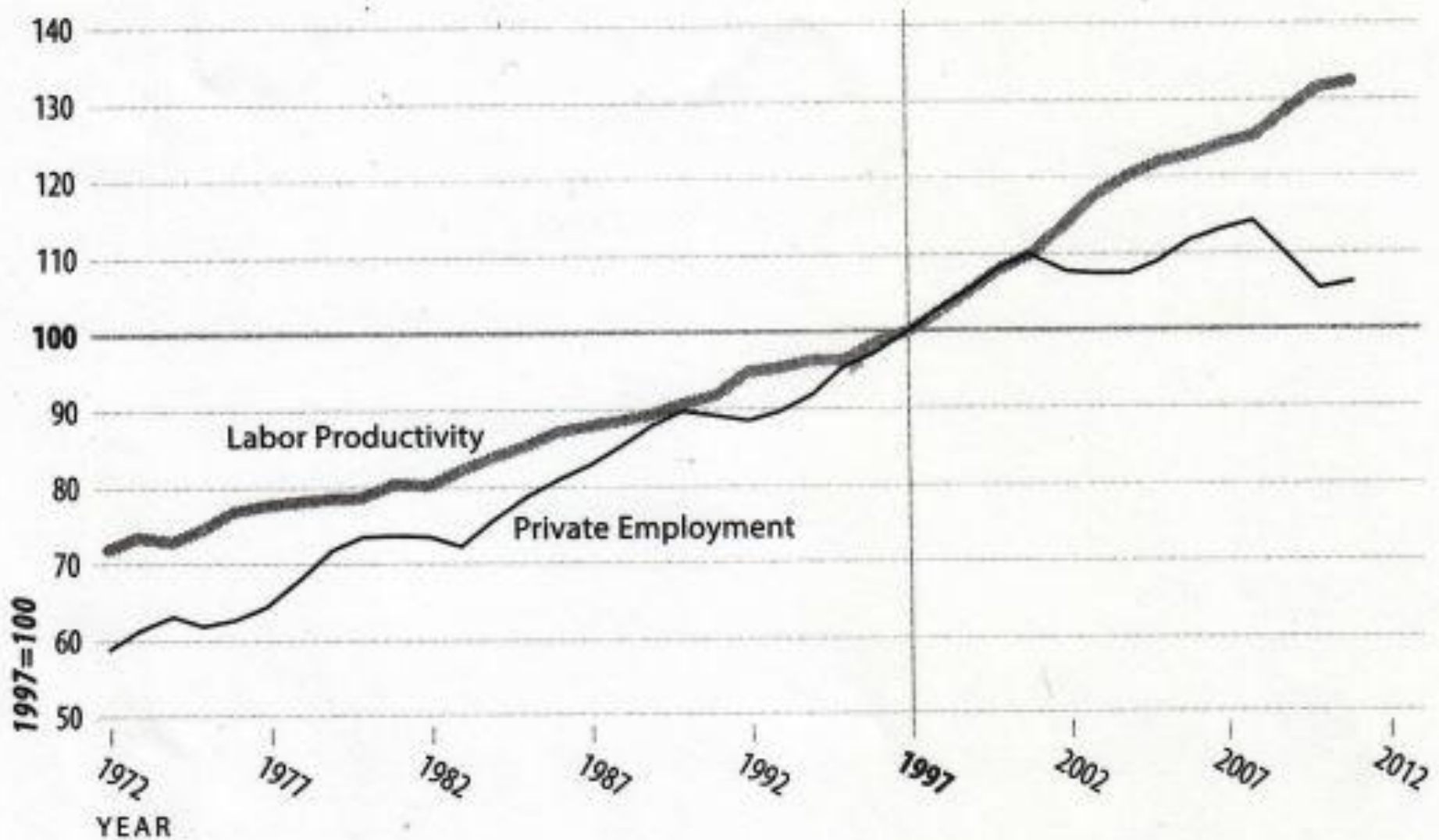
IT Values

- Opt-in vs. Opt-out
- Transparency vs. Privacy

Health Care and Digitization (I)

Health Care and Digitization (II)

Personalized Medicine

FIGURE 1 Labor Productivity and Private Employment

Source: Erik Brynjolfsson and Andrew McAfee, <u>The Second Machine Age,</u> W.W. Norton&Co, 2014.

Impact on Jobs: Digitization Versus Globalization
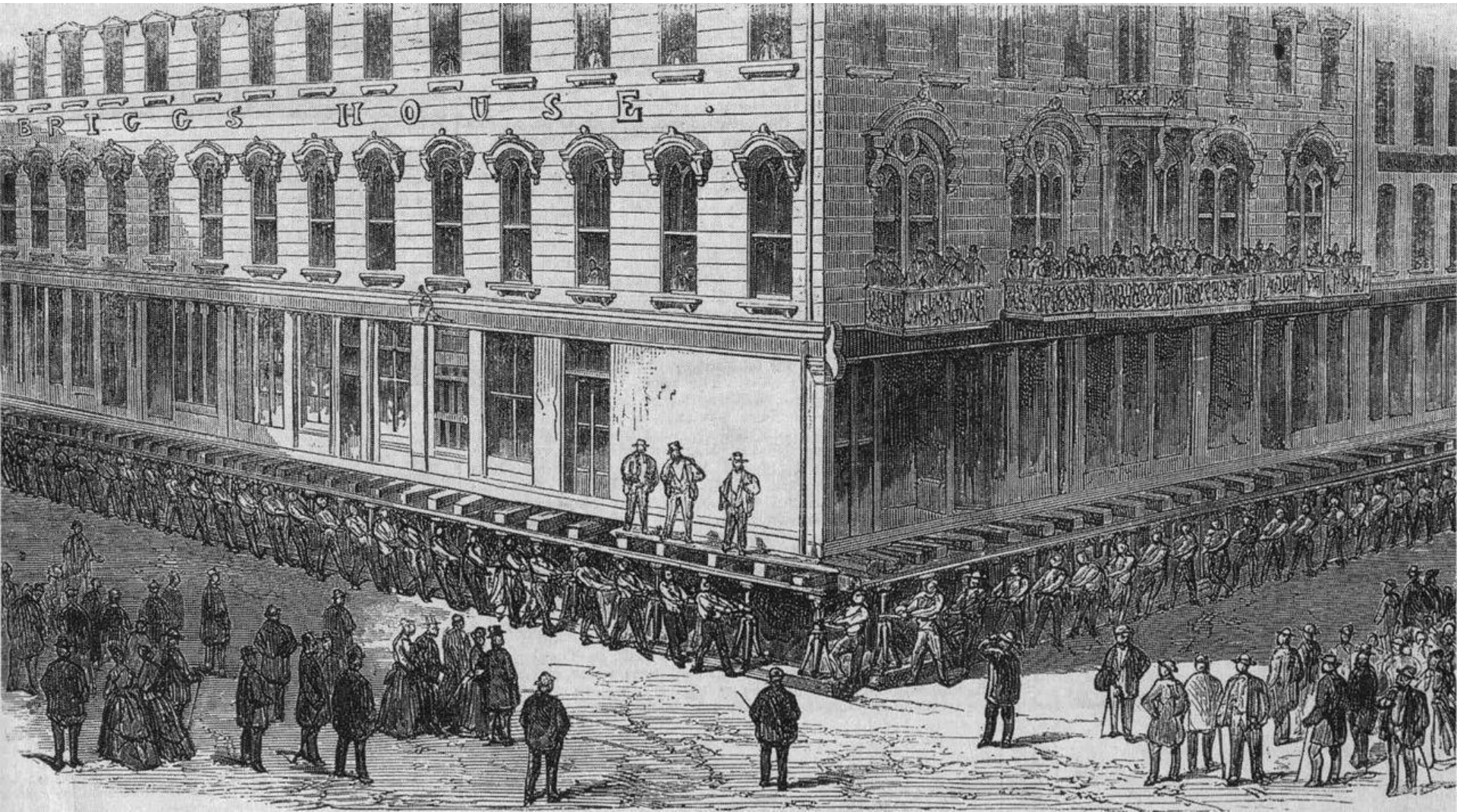
Is Digitization Really a Job Killer?

What is Happening now?

Working with Computers

Human's unique Capability: Creating new ideas and Concepts

Humans Can Take in a Broader Frame than Can Digital Technologies

Can we Cultivate Mondai Ishiki in Young People?

Source:http://upload.wikimedia.org/wikipedia/commons/thumb/4/4f/Briggs_hous
e.jpg/1280px-Briggs_house.jpg

Concluding Thoughts:

Role of Citizens and Universities in Digital Age

Some Definitions of Needed Skills Now and in the Future

- Critical Thinking: The ability to work with data, to accumulate it, analyze it and synthesize it, in order to make balanced assessments and smart decisions

- Analytical Capabilities: If you are analytical, you are good at taking a problem or task and breaking it down into smaller elements in order to solve the problem or complete the task.