

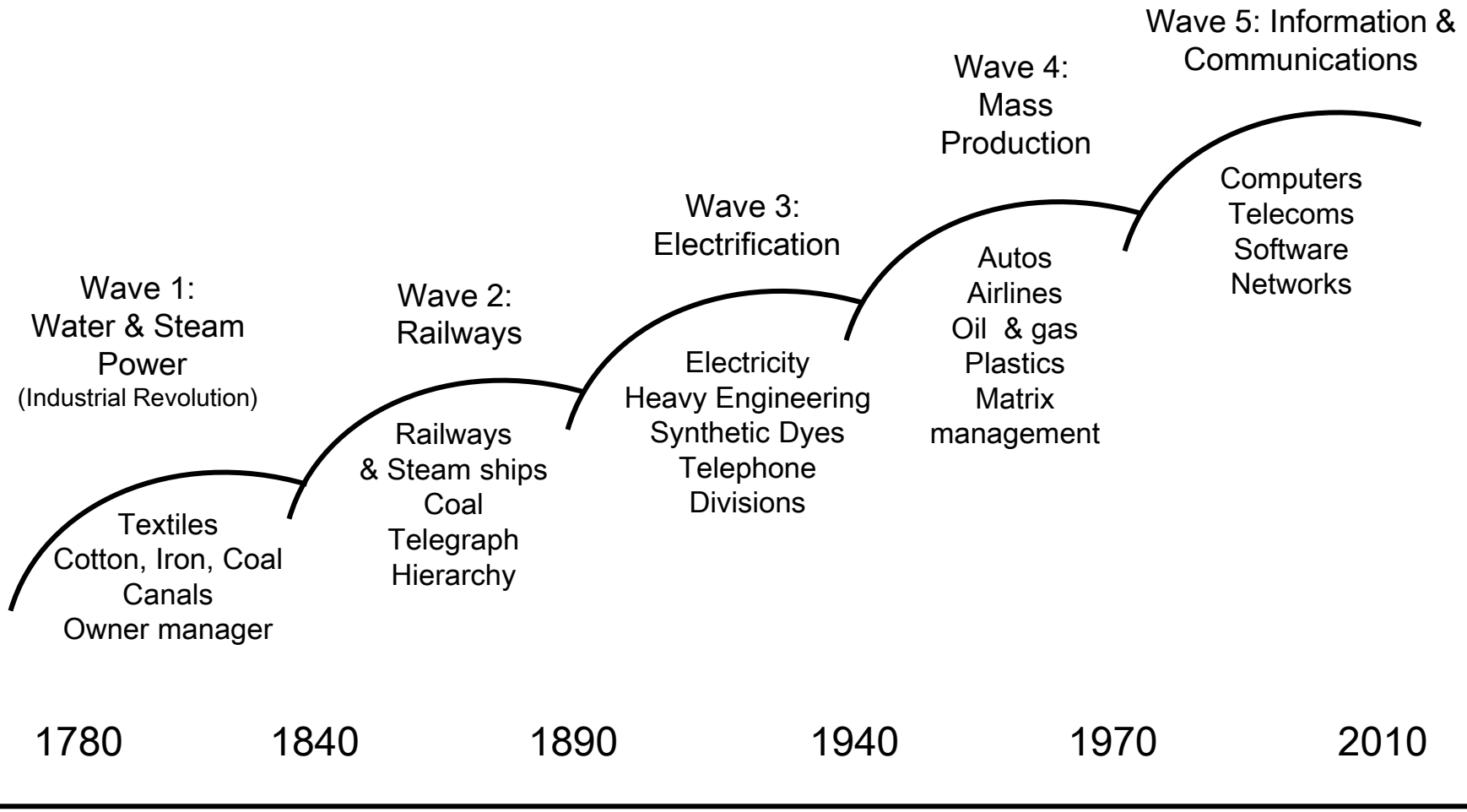


# **From problem to opportunity: The changing role of institutions**

James Bradfield Moody  
Crawford School, September 2013

# Two thoughts

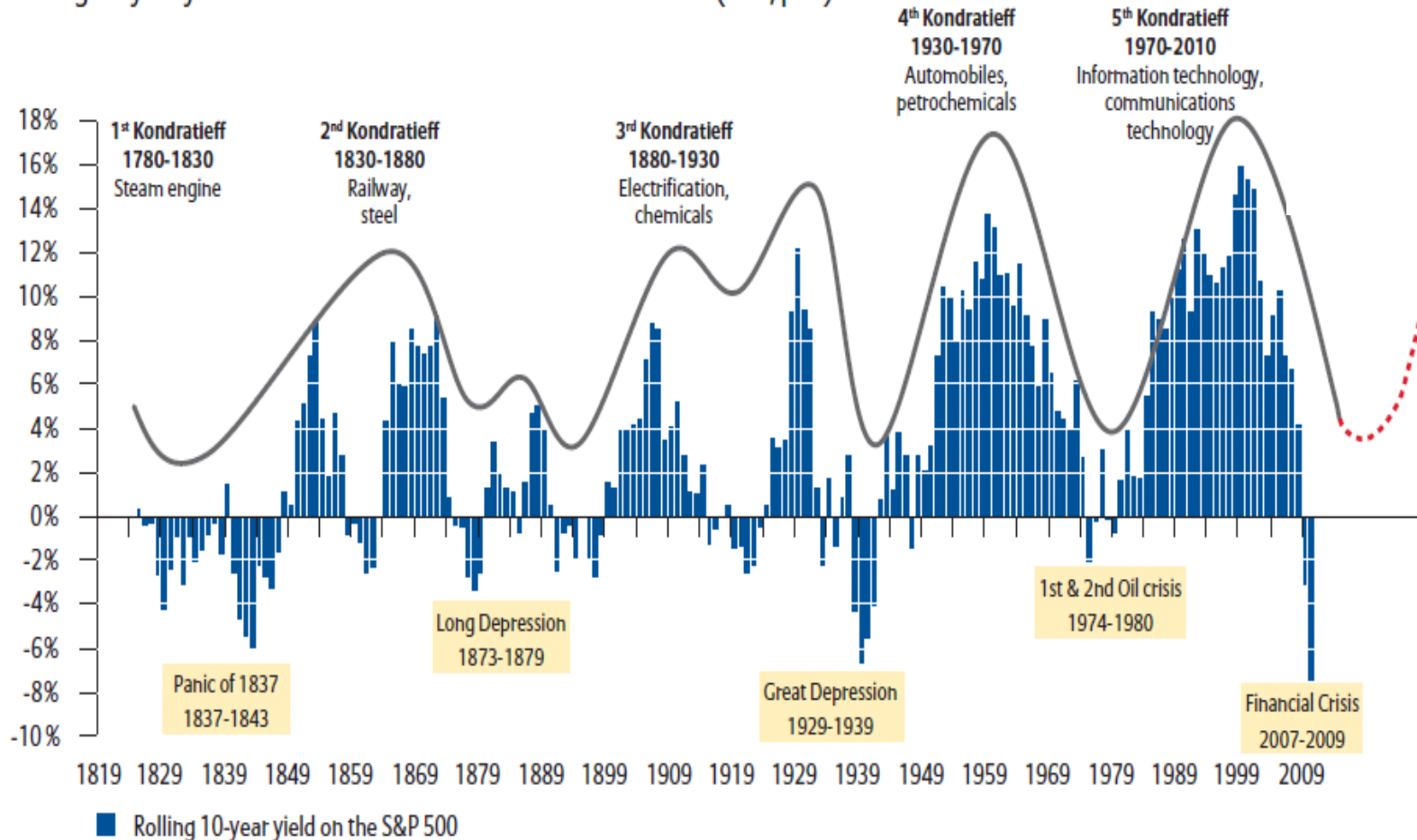
## 1. Waves of Innovation



Source: from Freeman, C., Louca, F., *As Time Goes By: From the Industrial Revolutions to the Information Revolution*, Oxford University Press, Oxford, 2002

# 1. Waves of Innovation

Rolling 10-year yield on the S&P 500 since 1814 till March 2009 (in %, p. a.)



Source: Datastream; Illustration: Allianz Global Investors Capital Market Analysis

## 2. Lasting change

“Lasting change occurs when problems become opportunities”



1+2=

The  
future?



# Global Environmental Governance

## Two UNEPs?



# Two UNEPs

	<b>UNEP 1.0 (Existing) - Problem Space</b>	<b>UNEP 2.0 (Emerging) - Opportunity Space</b>
Role	Protect the Commons	Support transition to green economy (promote opportunities from decoupling)
Assumption	May not decouple	Will decouple
Justification for Action/Market Failure	Tragedy of the commons	Systems failure
Mechanisms	Knowledge (Science) Information (Transparency) Treaties Regulation	Signals & Pricing (externalities) Coordination Level playing field (removing perverse incentives) Information exchange/championing
Approach	Government intervention	Government setting rules and then getting out of the way

# Two UNEPs

	<b>UNEP 1.0 (Existing) - Problem Space</b>	<b>UNEP 2.0 (Emerging) - Opportunity Space</b>
Actors	Nation States Civil Society (negative) Legal/Judiciary Government Environment Departments	Entrepreneurs/Business Civil Society (positive) Economists Government Innovation/Industry/Finance Departments
Trends/Lever s to Pull	Risk Resource Consumption/Scarcity Intergenerational equity & Human Rights Inequality	Resource efficiency Jobs & Growth Food & Energy Security Technology trends (discontinuities & disruption)
Scale	Global/Inter-national -> Nation States -> Local	Local -> Cities/Businesses -> Global
Drivers	Cooperation	Competition

# Science and Technology to Improve the Lives of the Poor



# UN Millennium Project – Kenya vs. Malaysia



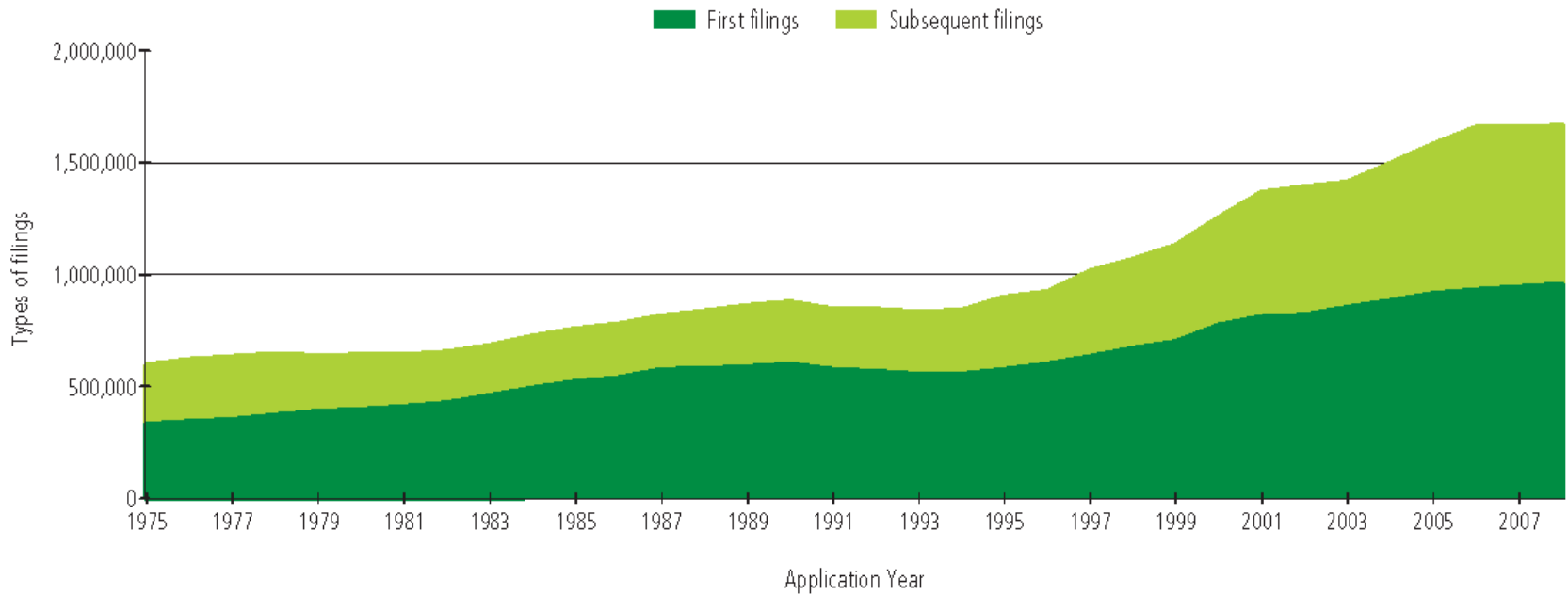
- Infrastructure is the foundation
- S&T Education
- Importance of advice & standards
- Fostering entrepreneurship
- Procurement
- International Participation

Problems: in water & sanitation, food security, malnutrition, education, market access, treatment & prevention of infectious diseases, rural electrification, climate change adaptation, and more...



# But at the same time....

Figure 4 Filings worldwide by type of filing



Source: WIPO Statistics Database, October 2011

# Opportunity: Global Responsibility Licensing

- Also known as humanitarian use, development use or equitable access licensing
- Licensing IP and creating partnerships for technology applications to benefit the poor can be without compromising core commercial markets of IP owners

	<b>Commercial Uses</b>	Uses in commercial domains, such as branded products in developed markets.
	<b>Emerging Market Uses</b>	Uses in emerging markets such as in generic products for developing countries.
<b>GRL</b>	<b>Humanitarian &amp; Pro-poor Uses</b>	<b>Uses in which the product/service contributes to poverty alleviation in developing countries.</b>

# HEALTH – Low cost diagnostics

## “Postage Stamp” Liver Test



**Final product**

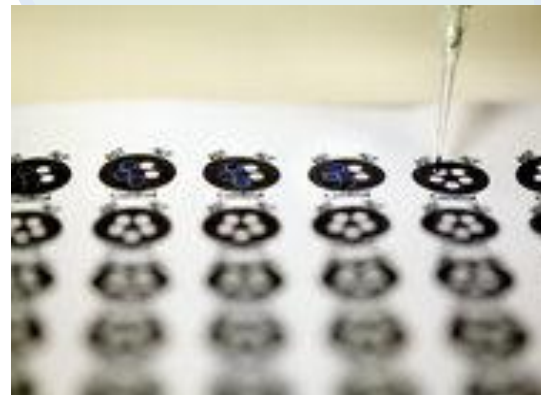
### **Purpose**

Point of Care Diagnostics for less than a cent, addressing issues of lack of training, lack of reagents and equipment and not water or power

Technology detects two key liver enzymes (AST - aspartate transaminase and ALT - alanine transaminase).

### **Partners**

- Harvard University
- Diagnostics for All
- Gates Foundation



### **Outcome/Impact**

- The paper is inexpensive, easily available and compatible with many biological and chemical assays.
- No need for syringes or clean water for sample preparation.
- No need for special training or professional staff

**Printed with an \$800 Xerox printer**

# AGRICULTURE – Waste Streams

Utilisation of waste streams in pineapple processing – Ghana



**Pineapple crop**

## Partners

- TNO
- Local knowledge institutes
- Private sector

## Purpose

**Creating economic value through the production of flour and syrup from pineapple processing waste (chaff)**

## Outcome/Impact

- Potential sugar replacement for local food manufacturers
  - Increase farmer sales
  - More benefit to food companies
- Access to nutritious food for local people



**Products from side stream materials**



# USPTO's Patents for Humanity Program



**PATENTS** for   
It's not just an invention. **HUMANITY**

# The Future Institutions for opportunity



# Difficult Questions

Can global institutions work in both modes simultaneously?

- Stakeholders
- Government liaison
- Basic assumptions
- Skill sets & language
- Risk appetite (risk averse vs. risk-taking)
- Clarity of purpose?

