China’s Health Reform and Economy: where it’s heading?

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The key points for my talk

- China’s economic security critically requires/depends on its transition from an investment-led to household consumption-driven economy.

- Health reform is being pursued as the state top priority aiming to develop an efficient healthcare system to provide affordable, accessible, and quality care for all, which in turn should also be very instrumental to

- Boosting the domestic consumption via reduced household savings for uncertain medical care, therefore contributing to the economic transition for its sustainability.
Economic Transition Per Capita

Source: Angus Maddison, 2007
Stronger Growth for A Nation?

Growth Sustainability and Transition?

- China’s economic growth model
  - GDP=$I + C + NE$: (2011) =63%+37%+0.3% (CNY48 trillions)
  - Why? A State capitalism model (strong public finance and state monopoly)

- The State capitalism-led issues and increasing concerns
  - Economic concern: sustainability of the state-led investment growth?
  - Social concern: income distribution and disparity in social welfare, with disputing views on the causes and solutions?

- Top political and economic consensus (The 12th 5-Y Plan)
  - Economic transition: state investment-driven to market consumption-driven model;
  - Top policy priorities: greater market reforms; social programs with focus on health reform
What people are most concerned?

工人日报、中工网、搜狐新闻进行联合网络调查

《Workers Daily》（2012-3-2 front page）


完善社保体系、退休双轨制、建立工资增长机制、职业病保护
农民工欠薪、缩小行业差距、房地产市场调控
Economy and HC: a macro view

- **World Average**
  - 2007: 26,581 Billion (CNY)
  - 2009: 34,090 Billion (CNY)
  - 2011: 47,156 Billion (CNY)
Major problems? Cost issue

Data: National Health Insurance Bureau

Data: HCUP data, (USD)
Major problems? access issue
Economic explanation: supply falling short of demand!

- Demand – market driven – growing
  - Income
  - Aging
  - Disease transition
  - Technology diffusion

- Supply – state control – stagnating
  - Missing or misled incentives for poor supply response
  - Lack market competitions

- Equilibrium - increasing demand leading to
  - Price inflation and supply shortage

\[ \ln Q = 1.178 \ln Y - 0.707 \ln P - 2.564 \]
But not all agreed: different views

- MOH Minister Chen:
  - Over-market conditions made healthcare more costly and inaccessible (Beijing Morning Post, 2011-11-2)
  - “卫生部部长陈竺介绍: 市场手段在社会服务领域往往失灵，过渡市场化造成的后果就是 看病难、看病贵” (北京晨报，2011-11-2)

- MOH position and “agent” role for the state health system
  - Regulatory role: full authority at entry (quality control of licensing for institutions, doctors, and products)
  - Management role: public health, medical care via public hospitals (public funding and personnel); and rural health
Academic voices: quite divided!

- **Pro-government school of thought**
  - Slogan: public welfare first
  - Argument: market failure
  - Advocating government control on both financing and delivery

- **Pro-market school of thought**
  - Slogan: efficiency/incentives
  - Argument: both can fail
  - Advocating each to function on its comparative advantage basis for financing and delivery
The State Decision: how and what?

- The State Health Reform Leadership
  - Mr. LI KQ chairs the State Health Reform Leadership Group, joined by the 16 Ministries with MOF, NDRC, MOHRSS, and MOH as 4 core members

- Phase-I Reform Roadmap: The Five Core Tasks (2009-2011)
  - Universal health insurance
  - Equal public health measures
  - State essential drug policy
  - Community health facility
  - Public hospital reform
  - Plus 3-Y public CNY800 B into the system

The State Health Reform Advisory Commission (36 members, July 2011)
Phase-II Reform: A Central Piece of The State 12th 5-Y Plan – three tasks

- The Universal Health Insurance
  - Reform from fragmented to an integrated platform
  - Reform from FFS to payment with compatible incentives

- The State Essential Drug Policy
  - Reform from overuse or misuse to right use towards communities
  - Reform from market to state pricing/financing

- The Public Hospital Reform
  - Administrative reforms: regulatory vs management roles; free-up doctors
  - Market reforms: private entry and market competition for greater supply
On the Health Insurance Policies

- The Urban Employee Basic Medical Insurance (UEBMI)
  - MHRSS-led, mandatory to employers, jointly contributed by both employers (wage 8%) and employees (wage 2%)

- The Urban Employee Basic Medical Insurance (URBMI)
  - MHRSS-led, voluntary, jointly contributed by government (CNY40, 80, 120, 200, 360) and residents (CNY225, 237, 252)

- The New Rural Cooperative Medical Insurance (NRCMI)
  - MOH-led, voluntary, jointly contributed by government (CNY40, 80, 120, 200, 360) and farmers (CNY20, 40, 80)
## Insurance effect: outpatient cost (%)

<table>
<thead>
<tr>
<th>Year</th>
<th>Groups</th>
<th>All</th>
<th>URBMI</th>
<th>UEBMI</th>
<th>NRBMI</th>
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<tbody>
<tr>
<td>2007</td>
<td>Weak</td>
<td>63.36</td>
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<tr>
<td></td>
<td>Strong</td>
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<tr>
<td></td>
<td>All</td>
<td>66.94</td>
<td>24.49</td>
<td>63.20</td>
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<tr>
<td>2008</td>
<td>Weak</td>
<td>70.09</td>
<td>40.29</td>
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<td>-</td>
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<tr>
<td></td>
<td>Strong</td>
<td>68.07</td>
<td>63.27</td>
<td>68.85</td>
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<td>69.11</td>
<td>51.76</td>
<td>69.80</td>
<td>-</td>
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<tr>
<td>2009</td>
<td>Weak</td>
<td>58.51</td>
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<tr>
<td></td>
<td>Strong</td>
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<td>32.82</td>
<td>64.38</td>
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<td>63.92</td>
<td>43.40</td>
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<td>64.42</td>
<td>57.76</td>
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<td>23.77</td>
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</table>

Source: The PKU Longitudinal Household Study (Liu et al., 2011)
## Insurance effect: inpatient cost (%)

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<tr>
<th>Year</th>
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<th>All</th>
<th>URBMI</th>
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<th>NRCMI</th>
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<td>35.10</td>
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<td>37.74</td>
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<tr>
<td>2009</td>
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<td>43.86</td>
<td>65.70</td>
<td>35.89</td>
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<td>64.12</td>
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<tr>
<td>2010</td>
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<td>43.51</td>
<td>66.22</td>
<td>46.88</td>
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<tr>
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<td>All</td>
<td>63.94</td>
<td>44.21</td>
<td>67.93</td>
<td>46.39</td>
</tr>
</tbody>
</table>

Source: The PKU Longitudinal Household Study (Liu et al., 2011)
Insurance effect: domestic consumption

Source: The PKU Longitudinal Household Study (Liu et al., 2011)
Further Reforms in Health Insurance

- Reform Policy Update (4Is)
  - Increase public premium contribution (from RMB200 to RMB360), leading to policy payment up from 50% to 75% by 2015
  - Integrate the three insurance programs
  - Increase the role of commercial insurance for both primary and supplementary programs
  - Initiate payment reforms: FFS to Capitation, DRG, and Global Budget
On drug policy: the central issue?

2011 《China Health Statistics》
On the State Essential Drug Policy

- **MHRSS: The National Insurance Drug List (IDL, 2009)**
  - Drug List Determination: Expert Panel Review Statistics (40,000 reviewers)
  - IDL A=(349 western + 154 TCM); IDL B=(791 western + 833 TCM)

- **MOH: The State Essential Drug List (EDL, 2009)**
  - To rationalize drug use for better quality and cost savings in primary care
  - EDL=(205 western + 102 TCM)
  - Fully listed for insurance with highest payment

- **Reform Policy Update**
  - More centralized, and mandated in all public primary facilities
  - Recommended for public hospitals, and private facilities
  - Challenge: how to improve tendering, pricing, and distributing policies for quality selection and utilization outcomes?
Empirical study: market effect?
On the Public Hospital Reform

- **Administrative reforms**
  - Governance: separating regulatory roles from management roles
  - Manpower: free-up doctors to allow multiple practice (free profession)
  - Management: public position to contractual basis with better incentives and accountability for greater productivity
  - Revenue sources: increasing medical service charges and public subsidy, eliminating 15% prescription markups (30-40% total income);

- **Market condition reforms**
  - Policy support with equal conditions for private entry and market competitions, towards tertiary/specialized care (20% private beds by 2015);
Empirical Study on Governance Reform

Data
- City-level panel data: 17 cities in Shandong province and 13 cities in Jiangsu province, extracted from Statistical Yearbook of Shandong (2003-08) and Jiangsu (2004-09)

Dependent variables
- Supply capacity: number of beds, doctors, and health workers per 10,000 people

Independent variables
- Key independent variables: Dummy variables for separation policy interventions in reform cities of Weifang from Shandong province, Suzhou and Wuxi from Jiangsu.
- Controlled variables: GDP per capita, GHE per capita

Models
- First Difference Model; Dynamic trend is captured by adding interaction terms
# Does Separation Policy Matter for Supply?

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>First Difference Model (Weifang)</th>
<th>First Difference Model (Suzhou)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bed</td>
<td>0.086 0.010 -0.013 0.089**</td>
<td>0.607*** 0.106*** 0.150*** 0.148*** 0.203***</td>
</tr>
<tr>
<td></td>
<td>(0.104) (0.026) (0.041) (0.042)</td>
<td>(0.084) (0.010) (0.020) (0.036) (0.029)</td>
</tr>
<tr>
<td>Doctor</td>
<td>0.411*** 0.005 0.132*** 0.273***</td>
<td>0.308** -0.016 0.101*** 0.085** 0.138***</td>
</tr>
<tr>
<td></td>
<td>(0.078) (0.022) (0.029) (0.031)</td>
<td>(0.116) (0.023) (0.029) (0.040) (0.034)</td>
</tr>
<tr>
<td>Health worker</td>
<td>0.422*** 0.009 0.106*** 0.308***</td>
<td>0.363*** 0.019 0.116*** 0.071* 0.157***</td>
</tr>
<tr>
<td></td>
<td>(0.078) (0.022) (0.028) (0.032)</td>
<td>(0.103) (0.017) (0.025) (0.041) (0.037)</td>
</tr>
<tr>
<td>Observations</td>
<td>85</td>
<td>65</td>
</tr>
</tbody>
</table>

Reference: Liu et al. (2012)
Empirical Study on Private Entry: positive

Reference: Liu et al. (2009), China Economic Review
Empirical Study on Free-up Doctors

- **Data**
  - Institutional data extracted from *Kunming Health Statistics Yearbook (2008-2010)*
  - Individual data from *Kunming Multi-site Practice Registration Form (2009.4-2011.3)*

- **Dependent variables**
  - Total volume of services, number of outpatient visits, number of inpatient admissions, total medical revenue, outpatient revenue, inpatient revenue, inpatient curative ratio

- **Key independent variable**
  - Multi-site practice dummy (1 for hospitals with multi-site physicians, and 0 otherwise)

- **Controlled variables**
  - Institutional characteristics: number of hospital staff, number of beds, building area, government subsidies, and number of large-scale equipment valued over 1 million RMB

- **Model**
  - Fixed Effect Model using 3-year panel data
# Free-up Doctors for Greater Productivity

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>Policy Dummy (1=Hospitals with Multi-site Practice)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Volume of Services</strong></td>
<td></td>
</tr>
<tr>
<td>Total Volume of Services</td>
<td>6,406** (2.429)</td>
</tr>
<tr>
<td>Outpatient visits</td>
<td>4,719 (1.592)</td>
</tr>
<tr>
<td>Inpatient admissions</td>
<td>590.3*** (3.9)</td>
</tr>
<tr>
<td><strong>Financial Indicators</strong></td>
<td></td>
</tr>
<tr>
<td>Total medical revenue</td>
<td>3,994** (2.019)</td>
</tr>
<tr>
<td>Outpatient revenue</td>
<td>1,647 (1.034)</td>
</tr>
<tr>
<td>Inpatient revenue</td>
<td>2,347*** (2.743)</td>
</tr>
<tr>
<td><strong>Technical Quality</strong></td>
<td></td>
</tr>
<tr>
<td>Inpatient Curative Ratio</td>
<td>0.103* (1.716)</td>
</tr>
</tbody>
</table>

Note: Robust t-statistics in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Reference: Gao et al. (2012)
China’s Health Reform: where to head?

Most nations

Market

Service Supply

State

UK

China

USA

Managed Care?

Pay for Health?

Market Care?