

Nature and evolution of industrial districts

Lucio Biggiero

University of L'aquila, biggiero@ec.univaq.it,
lbiggier@luiss.it

Knownetlab Research Center, www.knownetlab.it

ADVANCES IN UNDERSTANDING NETWORKS

LUCIO BIGGIERO
LUISS UNIVERSITY (ROME)

LOCAL PRODUCTION SYSTEMS: FOUR EXPLAINING VARIABLES

- 1. DEGREE OF NETWORK DENSITY
- 2. DEGREE OF LOCAL CONCENTRATION
- 3. DEGREE OF INDUSTRIAL
SPECIALIZATION
- 4. AVERAGE FIRM SIZE

NEO-MARSHALLIAN DEFINITION OF ID

- “A SOCIO-TERRITORIAL ENTITY WHICH IS CHARACTERIZED BY THE ACTIVE PRESENCE OF BOTH A COMMUNITY OF PEOPLE AND A POPULATION OF FIRMS IN ONE NATURALLY AND HISTORICALLY BOUNDED AREA” (Becattini 1990: 39).

DEGREE OF NETWORK DENSITY

- SUFFICIENTLY STABLE RELATIONSHIPS BETWEEN FIRMS LOCATED TO THE SAME AREA
- THEY MUST EXCHANGE GOODS OR SERVICES OR LABOR OR (AT LEAST) INFORMATION (COMMUNICATION)
- THIS CONDITION EXCLUDES NEW SITES BASED ONLY ON FINANCIAL, NATURAL OR FISCAL ADVANTAGES

... continues

- THERE ARE NO PARAMETERS FOR ID_s
- CURRENTLY IS USED LABOUR MOBILITY IN A SELF-CONTAINED AREA
- ISTAT PARAMETERS COMPUTE AN INDUSTRIAL CONCENTRATION RATIO, WHICH IS REFERRED TO NATIONAL AVERAGE: IT IDENTIFIES LOCAL MANUFACTURING WORK SYSTEMS (LMWS)

DEGREE OF LOCAL CONCENTRATION

- FOR IDs IT USUALLY CORRESPONDS TO A MUNICIPALITY ABOUT 20-50,000 INHABITANTS
- ISTAT PARAMETERS IDENTIFY LOCAL WORK SYSTEMS (LWS), WHICH COINCIDE WITH SELF-CONTAINED WORK AREAS

DEGREE OF INDUSTRIAL SPECIALIZATION

- ORTHODOX (NEO-MARSHALLIAN) DEFINITION REQUESTS ONLY ONE STRONGLY DOMINANT SPECIALIZATION
- ISTAT PARAMETERS DEFINE A SECTORIAL SPECIALIZATION RATIO, REFERRED TO NATIONAL AVERAGE
- CURRENT HETERODOX DEFINITION ACCEPTS ALSO TWO OR THREE MAIN INDUSTRIES

AVERAGE FIRM SIZE

- LESS THAN 250 EMPLOYEES PER FIRM
- USUALLY LESS THAN 50
- THIS CONDITION EXCLUDES LOCAL CONCENTRATION OF LARGE FIRMS, LIKE METROPOLITAN AREAS
- ISTAT PARAMETERS COMPUTE A SIZE CONCENTRATION RATIO, WHICH IS REFERED TO NATIONAL AVERAGE

IRES RESEARCH (1981)

- 99 Ids ACCOUNTING OF 820.000 EMPLOYEES AND 6 MILLION INHABITANTS
- 41 IDs BEFORE 1950
- 53 BETWEEN 1950 AND 1970 (MAINLY LOCATED IN NORTH-EAST AND CENTER)
- 5 AFTER 1970
- 1/3 OF SMEs EMPLOYMENT IS IN IDs
- MOST CRITICAL (WEAK) IDs ARE OLD ONES

BIRTH DETERMINANTS

- 1. POST-WAR DEMAND GROWTH
- 2. DEVALUATION (--> EXPORT)
- 3. CRISIS OF AGRICULTURE
- 4. CRISIS OF MILITARY INDUSTRY
- 5. SOLDIERS UNEMPLOYMENT
- 6. URBANIZATION OF COUNTRYSIDE
- 7. STRONG LOCAL IDENTITY

... continues

- 8. STRONG SOCIAL TEXTURE
- 9. DIFFUSED ENTREPRENEURSHIP

TYPES OF ENTREPRENEURS

- METAYERS
- ARTISANS
- SMALL BUSINESS MEN
- WORKERS AND TECHNICIANS FIRED BY LARGE COMPANIES

OTHER CONDITIONS

- SMALL INVESTMENTS
- LOW SCALE ECONOMIES
- LOCAL KNOW-HOW
- DOUBLE LABOR MARKET
- FAMILY FINANCING

INDUSTRIAL DISTRICTS AS:

- 1. HYPER-NETWORKS
- 2. ECONOMIC SYSTEMS
- 3. SOCIAL SYSTEMS
- 4. EVOLVING SYSTEMS
- 5. SELF-ORGANIZING SYSTEMS
- 6. COGNITIVE SYSTEMS

IDS AS ECONOMIC SYSTEMS

- FULL EMPLOYMENT
- DURING 1990-95 RECESSION 50% OF DISTRICT FIRMS INCREASE SALES
- IDS COVER 40% OF ITALIAN EXPORT
- IDS COVER 20% OF ITALIAN GNP

IDS AS SOCIAL SYSTEMS

- 6 MILLION PEOPLE INVOLVED
- STRONG LOCAL SOCIAL IDENTITY
- LESS LABOUR CONFLICTS
- FORMS OF WORKER PARTICIPATION
- MIX COOPERATION-COMPETITION
- TRUST AND REPUTATION

IDS AS EVOLVING SYSTEMS

- THE CHALLENGE OF LOCAL-GLOBAL INTERPLAY
- FROM TRIGGER CONDITIONS TO INDUCED PRODUCTIONS AND TO KNOWLEDGE RESOURCES (SKILLS AND COMPETENCE)
- TOOL MACHINES AS DERIVED PRODUCTIONS

IDS AS COGNITIVE SYSTEMS

- CONTEXTUAL KNOWLEDGE, WHICH APPLIES SCIENTIFIC-TECHNICAL ONE
- LEARNING BY IMITATION AND INTERACTION BETWEEN FIRMS AND PEOPLE
- RECURSIVITY OF COMMUNICATIONS AND REDUNDANCE OF ACCESS

IDS AS SELF-ORGANIZING SYSTEMS

- STRONG IDENTITY, HIGH RECURSIVE INTERACTIONS AND HIGH VARIETY (REDUNDANCE) OF RESOURCES LEAD TO A HIGH OPERATIONAL CLOSURE
- EVEN IF WITH FUZZY, UNSTABLE AND AMBIGUOUS BOUNDARIES, IDS ARE QUITE OPERATIONALLY CLOSED

ID AS HYPER-NETWORKS

- THREE LEVELS OF DESCRIPTION
- 1. ORGANIZATIONAL NETWORKS
- 2. INTER-ORGANIZ. NETWORKS
- 3. NETWORKS OF NETWORKS
- SOCIAL AND ECONOMIC, PUBLIC AND PRIVATE NETWORKS, INTER-CONNECTED AND INTERTWINED

NETWORK EVOLUTION OF CAPITALISM

LUCIO BIGGIERO

LUISS UNIVERSITY (ROME)

A POSITIVE DEFINITION OF POST-FORDISM

- 1. PRIORITY ON KNOWLEDGE AND COGNITIVE PRODUCTION PROCESS
- 2. HIGH FLEXIBILITY AND ADAPTIVE CAPACITY OF FIRMS
- 3. PROGRESSIVE DISAPPEARANCE OF VERY LARGE FIRM SIZE AND MARKET POWER

... continues

- 4. REDUCTION OF REGULATION AND LAW CONSTRAINTS
- 5. NETWORK FORM AS DOMINANT ORGANIZATION

SIX RECENT “SURPRISES”

- 1. FIRMS ARE NOT ISOLATED, BUT RATHER GATHERED IN NETWORKS
- 2. FIRMS ARE NOT SPATIALLY DISPERSED, BUT RATHER CONCENTRATED IN SPECIFIC TERRITORIES
- 3. ECONOMIC RELATIONSHIPS ARE SOCIALLY EMBEDDED

... continues

- 4. TACIT AND EXPLICIT KNOWLEDGE PLAYS A VERY RELEVANT ROLE IN PRODUCTION PROCESSES
- 5. DE(RE)COMPOSITION PROCESSES ARE TAKING PLACE IN MANY WAYS AND INDUSTRIES
- 6. IN HIGH INDUSTRIALIZED COUNTRIES SMEs STILL PERSIST AND SHOW GOOD PERFORMANCES

THREE “OLD DISCOVERIES”

- 1. BOUNDED RATIONALITY OF AGENTS
- 2. INCREASING ENVIRONMENTAL UNCERTAINTY (COMPLEXITY)
- 3. SPACIAL (ENVIRONMENTAL) EXTERNALITIES
- 4. FAILURE OF HEAVILY HIERARCHICAL FORMS OF ORGANIZATIONAL AND INSTITUTIONAL CONTROL

THREE THEORETICAL PERSPECTIVES

- 1. TECHNOLOGICAL PARADIGMS AND LONG RUN CYCLE THEORY (DOSI, SOETE, PEREZ, FREEMAN)
- 2. MASS PRODUCTION AND FLEXIBLE SPECIALIZATION (PIORE, SABEL, ZEITLIN)
- 3. FRENCH SCHOOL OF REGULATION (BOYER, AGLIETTA)

SECOND-ORDER CYBERNETICS AS A META- EXPLANATION

- INCREASING ENVIRONMENTAL COMPLEXITY
- ORGANIZATIONS AS REDUCERS OF COMPLEXITY
- SOCIAL SYSTEMS AS SELF-ORGANIZING AND SELF-REFERENTIAL SYSTEMS