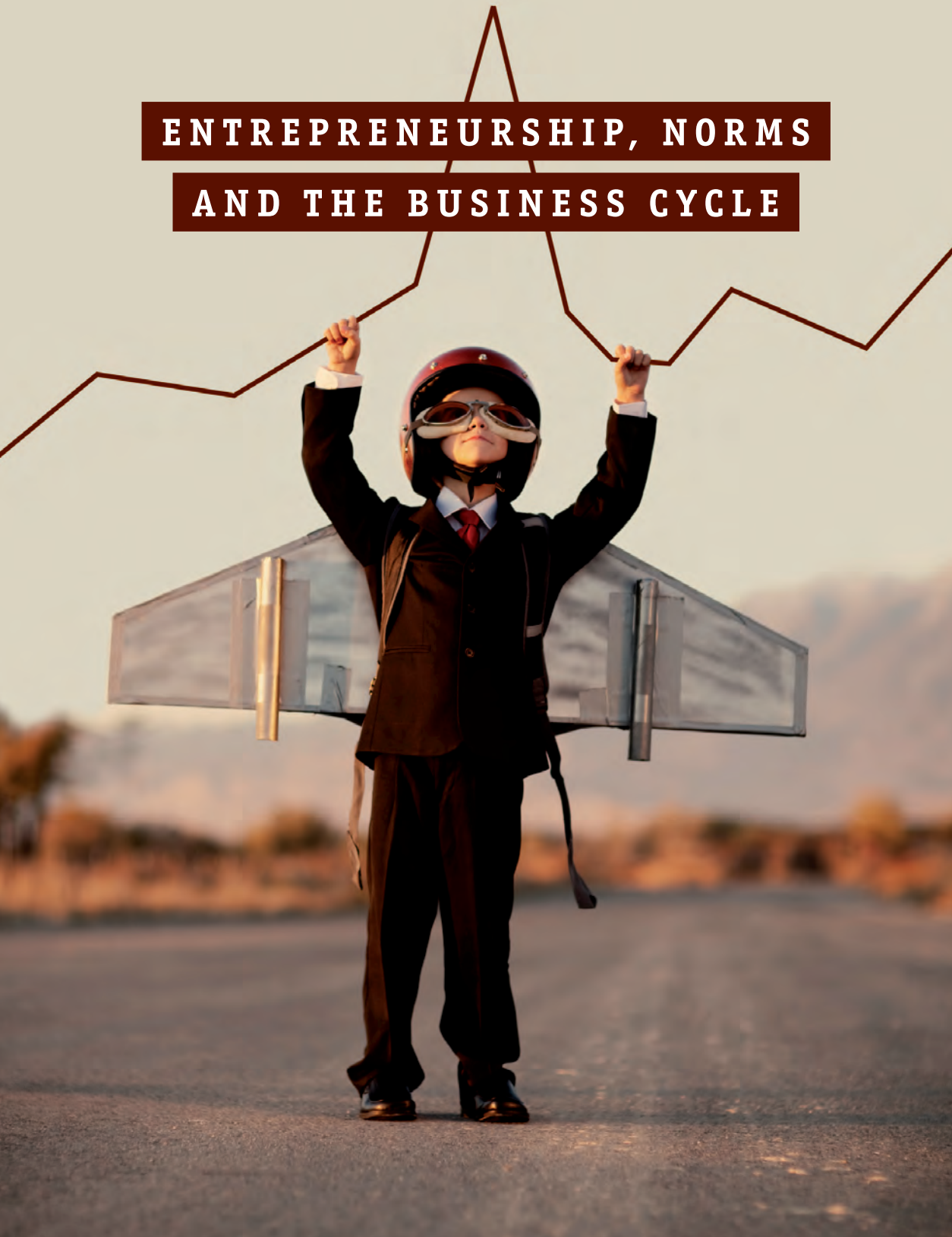
SWEDISH ECONOMIC FORUM REPORT 2012

ENTREPRENEURSHIP, NORMS AND THE BUSINESS CYCLE



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Entreprenörskapsforum är en oberoende stiftelse och den ledande nätverksorganisationen för att initiera och kommunicera policyrelevant forskning om entreprenörskap, innovationer och småföretag.

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Förord

Årets Swedish Economic Forum Report tar upp en relativt ny forskning som behandlar relationen mellan entreprenörskap och konjunkturcykeln, samt huruvida det finns stabiliseringspolitiska slutsatser att dra av dessa nya rön. Frågeställningarna har aktualiserats av den pågående krisen som nu är inne på sitt femte år och där effekterna av traditionella (och mindre traditionella) penning- och finanspolitiska insatser hittills inte haft det förväntade realekonomiska genomslaget. Övergripande kan konstateras att, kanske särskilt inom EU, de mikroekonomiska förutsättningarna för entreprenörskap och innovation och i förlängningen tillväxt, fått stå tillbaka för återkommande brandkårsutryckningar för att lösa makroekonomiska akuta problem.

Att entreprenörskap och innovation kan påverka konjunkturcykeln hänger samman med dessa fenomens koppling till teknologiska genombrott och ekonomins utbudssida. I rapporten visas hur entreprenörskapets förändring samvarierar med konjunkturcykeln, vilka typer av entreprenörskap som påverkar olika faser i konjunkturcykeln samt vilka policyslutsatser detta föranleder. Avgörande för såväl politikens effekt som för känsligheten av ekonomiska chocker är hur väl etablerade och utbredda de entreprenöriella normerna är. Stora regionala skillnader inom länder konstateras liksom att det tar tid att förändra regionala värderingar kring entreprenörskap. Det innebär dock inte att institutionella reformer för att främja entreprenörskap och innovation är mindre angelägna.

Forskarnas bidrag till årets rapport är skrivna på engelska. För att tillgängliggöra dem har vi valt att lägga något fylligare sammanfattningar på svenska i slutet av det inledande kapitlet.

Författarna till årets rapport är Martin Andersson, Michael Fritsch, Tim Lamballais Tessensohn, Simon Parker, Roy Thurik, Michael Wyrwich och undertecknad. Vi författare svarar helt och hållet för de analyser och rekommendationer som lämnas i rapporten.

Tack till Pernilla Norlin, Ulrika Stuart Hamilton och Per Thulin för värdefulla synpunkter och hjälp. Med förhoppning om intressant läsning!

Stockholm i november 2012

Pontus Braunerhjelm
VD och professor, Entreprenörskapsforum

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FAILURE

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● PONTUS BRAUNERHJELM

Entreprenörskap: En väg ur krisen?

Världen går 2013 in i sitt sjätte krisår. Med undantag för en viss återhämtning 2010 har krisen snarast förvärrats i en rad länder. Grekland står på randen av en statsfinansiell bankrutt, andra länder brottas med skenande arbetslöshet, vikande efterfrågan, låg tillväxt och en försämrad statsfinansiell situation. Inom eurozonen är det få länder som lever upp till tillväxt- och stabilitetspaktens krav på budgetbalans och en skuldsättning som inte överstiger 60 procent av BNP. I USA krymper tiden raskt för att göra något år det s k fiskala stupet (fiscal cliff) som innebär att åtstramningar motsvarande fem procent av USAs BNP per automatik träder ikraft vid årsskiftet såvida inte en politisk överenskommelse om hur budgetunderskottet ska hanteras har nåtts innan dess. Till och med Kinas tillväxttal viker neråt. Den perfekta makroekonomiska stormen förefaller att närma sig.

Diskussionen om hur den negativa trenden ska kunna vändas har främst fokuserat på traditionell makroekonomisk stabiliseringspolitik, dvs penning- och finanspolitik, samt hur särskilt finansmarknaderna ska kunna regleras för att minska risken för framtida systemiska risker. Grunden för ekonomisk tillväxt handlar dock om förutsättningar för företagande, nytt såväl som existerande, och deras förmåga att genom ett kontinuerligt förnyelsearbete bevara och stärka sin konkurrenskraft. Nya och växande företag skapar arbetstillfällen, genomför investeringar och driver på konkurrensen. Enligt OECD (2003, 2005) kan mellan 20 och 40 procent av

produktivitetstillväxten förklaras av att nya företag kommer in på marknaden och att gamla slås ut. Förutsättningarna för nya företag skapas av den politiskt bestämda miljö som de verkar i: lagar och regelverk. Hur mycket kostar det att nyanställa en person? Vilken risk är förenad med att starta ett nytt företag jämfört med att vara anställd? Hur bedöms och bestraffas ett misslyckande? Men också informella institutioner – normer – styr företagandets omfattning och inriktning.

En stabil makromiljö är en nödvändig men inte tillräcklig förutsättning för näringslivsdynamik, tillväxt och ett högt välstånd. Finansmarknaderna måste fungera och bäras upp av transparenta och tydliga regelverk där de som tar risker, inte skattebetalarna, också får bära dessa vid eventuella förluster. Men varken Liikanens eller Vickers rapporter, som båda granskat strukturen i den europeiska banksektorn, med sina detaljerade förslag om att inhägna särskilt riskfyllda aktiviteter kommer att vända den makroekonomiska utvecklingen eller förebygga att framtida finansiella kriser uppstår, möjligen minska risken.[1] Inte heller kommer dessa regelverk garantera att nya och mindre företags behov av kapital tillgodoses. Den centralt viktiga frågan för en fortsatt uthållig tillväxt, nämligen entreprenörskapets och företagandets villkor och de mikroekonomiska förutsättningar som styr dessa aktiviteter, sätts ständigt på undantag. Detta är särskilt påtagligt inom EU med en centralistisk, top down-präglad strategi och ständigt återkommande brandkårsutryckningar för att temporärt lösa makorekonomiska kriser.

Utifrån dessa utgångspunkter ställs i föreliggande rapport tre övergripande frågor: För det första, samvarierar entreprenörskap systematiskt med konjunkturcykeln och i sådana fall hur? Föregår eller följer förändringar i entreprenörskap konjunktursvängningar, är dessa pro- eller kontracykliska? Skiljer det sig mellan olika typer av entreprenörskap?

För det andra, är entreprenörskapets nivå en funktion av dagens entreprenöriella miljö (institutioner) eller är det snarare normer, som rotats sedan lång tid tillbaka, som styr entreprenörskapets inriktning och omfattning?

För det tredje, går det att bedriva en kontracyklisk entreprenörskapspolitik? Kopplat till detta analyseras om konjunktursvängningar påverkar entreprenörskapet tillfälligt, utsträckt över tiden (persistent) eller permanent. De största möjligheterna för en kontracyklisk politik finns då effekterna är utsträckta men inte permanenta. Samtidigt finns problem med effektivitet och tidsmässig träffsäkerhet i insatser för att främja entreprenörskapet. Detta gäller dock för även många andra finanspolitiska stabiliseringsinstrument.

1. Liikanen-rapporten är EU:s utredning för att granska strukturen i den europeiska banksektorn som letts av den finske riksbankschefen Erkki Liikanen. Vickersrapporten är en brittisk motsvarighet som författats under ledning av Sir John Vickers. Båda rapporterna föreslår att mer riskfyllda bankverksamheter avgränsas till särskilda enheter inom företagen (ringfencing) men skiljer sig åt vad gäller hur detta ska ske. Undertecknad förespråkar Vickers ansats som bygger på ett större kapitaltäckningskrav för den traditionella bankverksamheten (retail banking) och inte en detaljerad definition av olika instruments och verksamheters risker.

Den makroekonomiska bakgrunden

Rapporten ska ses mot bakgrund av att penningpolitiken förefaller ha nått vägs ände, vilket sammanfaller med att en efterfrågestimulerande finanspolitik blockeras av svaga statsfinanser. Globalt har penningpolitiken varit mycket expansiv vilket initialt innebar kraftiga sänkningar av den korta räntan för att därefter – när de korta räntorna närmat sig noll – ersättas av kvantitativa lättnader, dvs ökningar i penningmängden via sedelpressarna för att sänka långa räntor. Ett stort antal länder – bland andra Japan, Schweiz, Storbritannien, USA liksom EU – har genomfört sådana åtgärder. De realekonomiska effekterna förefaller hittills blygsamma men är svåra att kvantifiera. Flera forskare har påpekat den experimentella naturen i dessa stimulanser samt riskerna för att det leder till en framtida hög inflation. Andra understryker att kvantitativa lättnader kan leda till ”valutakrig” eftersom lägre räntor också för med sig en fallande valuta vilket underlättar för ett lands exportindustri. Det kan då vara lockande för andra länder att vidta motsvarande åtgärder och en situation som påminner om konkurrerande devalveringar kan uppstå. Schweiz har t ex deklarerat att de kommer att vidta obegränsade interventioner för att hindra att schweizerfrancen överstiger ett viss riktvärde.

Hur kommer entreprenörskapet in i denna makroekonomiska bild? Schumpeter, liksom andra samtida tänkare, ansåg att ekonomisk utveckling skedde i långa vågor med innovation och teknologisk förändring som den chock som satte igång vågrörelsen. Innovation anses i sin tur vara en hörnsten i ekonomisk tillväxt. Det var alltså ekonomins utbudssida som stod i fokus i dessa tidiga analyser av förändringar i den ekonomiska aktiviteten, vilket dock kom att skymmas av den Keynesianska modellen ända fram till 1980-talet då bl a Kydland och Prescott (1982) åter pekade på sambandet mellan teknologiska förändringar och konjunkturfluktuationer.

Tekniska genombrott och de därpå följande innovationerna kan påfallande ofta härledas till entreprenörskapet, visserligen många gånger i samarbete med andra aktörer. Hur entreprenörskapet påverkar, och påverkas av konjunkturcykeln har dock knappt studerats. En rad andra variablers effekt och samvariation med densamma har dock belysts i mängder av analyser och rapporter. Det är först under de senaste två decennierna som intresset för entreprenörskapets betydelse för tillväxt har väckts till liv, och relationen mellan entreprenörskap och konjunkturförändringar har bara studerats ett fåtal år tillbaka.[2] Några observationer är att olika typer av entreprenörskap kan förväntas påverka konjunkturcykeln på olika sätt och i olika faser. En typ av entreprenörskap är förknippat med innovation och exploaterande av affärsmässiga möjligheter, en annan sker som en sista utväg för att undgå arbetslöshet.

I de följande delarna av kapitlet presenteras inledningsvis en kort redogörelse för några empiriska och teoretiska bidrag inom detta område av entreprenörskapslitteraturen, hur entreprenörskapet samvarierar med konjunkturcykeln och om det är olika typer av entreprenörskap som uppträder i olika faser av konjunkturcykeln.

2. Se Acs m fl (2009), Parker (2009), Braunerhjelm m fl (2010) samt Braunerhjelm (2011) för en översikt.

Därefter sammanfattas de policyslutsatser som de medverkande forskarnas analyser har lett fram till. Slutligen presenteras forskarnas bidrag till rapporten, något mer utförligt än vanligt eftersom bidragen i år är på engelska.

Entreprenörskap, konjunkturcykeln och normer: Vad säger forskningen?

Vem blir entreprenör och varför?

Den empiriska entreprenörskapslitteraturen har identifierat både monetära (vinster och inkomster) och icke-monetära (problemlösning, frihet mm) faktorer som förklaring till att individer väljer att starta företag. Övergripande brukar entreprenörskapet indelas i nödvändighetsbaserat (pga t ex en vikande arbetsmarknad) och möjlighetsbaserat entreprenörskap som karaktäriseras av att individen identifierat en affärsmöjlighet som testas på marknaden.[3] Dessa typer av entreprenörskap har en tydlig bäring på vilket skede en ekonomi befinner sig.

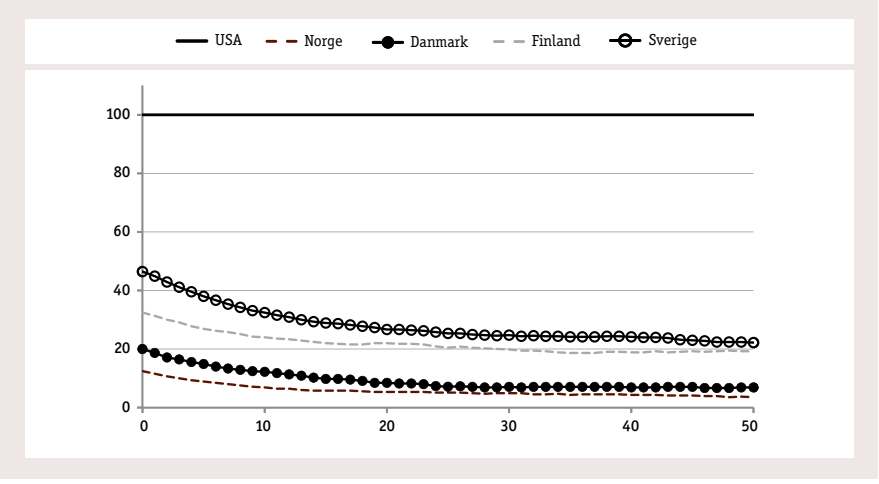
När det gäller motiven för att starta ett företag hävdar den österriskiska och evolutionära skolan och dess moderna efterföljare att det främst rör sig om ekonomiska motiv (nettoavkastningen tillfaller entreprenören), även om Schumpeter också pekar på andra motiv. Den moderna teoribildningen brukar förklara entreprenörskap utifrån de s k occupational choice-modellerna, som också drivs av den förväntade avkastningen av att antingen vara anställd eller driva ett eget företag. Dessa sträcker sig från partiella modeller där individen uppskattar framtida inkomster, till allmänna jämviktsmodeller som visar hur den arbetsföra befolkningen fördelas mellan lönearbete och eget företagande. Lucas (1978) utgår från antagandet att individer skiljer sig vad gäller entreprenöriell talang vilket styr fördelning mellan lönearbetare och entreprenörer. Förändringar i t ex kapitaltillgång kommer dock att påverka löner och därmed också nivån på entreprenörskapet: ökar avkastningen på lönearbete väljer fler att bli anställda och andelen entreprenörer minskar.[4]

Beträffande entreprenörskapets omfattning och inriktning råder stor enighet om att tydliga institutioner som skyddar ägande och skapar drivkrafter för att engagera sig i ett ofta riskfyllt företagande är avgörande för innovation och entreprenörskap (Birdzell och Rosenberg, 1986). Till detta kommer informella institutioner och normer som har mejslats fram under lång tid, med kontinuerliga återkopplingar mellan regionalt näringsliv och offentliga aktörer som bidragit till att utforma gällande normer. När normer väl etablerats förefaller dessa att kunna bestå över lång tid trots att de utsätts för betydande påfrestningar (se kapitel 4 i en studie på forna Östtyskland).

3. Dessa typer av entreprenörskap brukar också kopplas till s k push- respektive pull-faktorer.
4. Se Parker (2009) för en genomgång av dessa modeller som också innefattar arbeten av t ex Kihlstrom och Laffont (1979) kring olikheter i riskbedömning, Murphy m fl (1991) om kunskapsexternaliteter kopplade till olika verksamheter, Jovanovic (1982) om olika kompetenser och inlärning, Lazear (2005) om kompetensprofil hos entreprenörer.

Baumol (1990) påpekade att institutionerna styr vilken typ av entreprenörskap som utvecklas. Ofta skiljer sig dessa institutioner också mellan utvecklade länder. I en intressant artikel skiljer Acemoglu m fl (2012) på de övergripande institutionella skillnader som präglar de skandinaviska välfärdsstaterna och mer renodlade marknadsekonomier med USA som exempel. Först konstaterar författarna att amerikaner arbetar mer, är mer entreprenöriella och riskbenägna samt i högre utsträckning har bidragit till den globala teknologiska utvecklingen. Det senare illustreras med antalet kvalificerade patent per invånare (Figur 1). USA står för utvecklingen av spjutspetsteknologi medan skandinaverna mer kan karaktäriseras som imitatörer. Medelamerikanens inkomst är också högre, men samtidigt har inte denne tillgång till samma välfärdssystem som genomsnittsskandinaven. Inkomstspridningen och fattigdomen är också större i USA.

FIGUR 1. Patent per miljon invånare i förhållande till USA (100)



Källa: Acemoglu, 2012.

Acemoglu m fl ställer frågan om inte USA kan vara mer likt Skandinavien, dvs kan USAs knivskarpa (cutthroat) konkurrens ersättas med Skandinavernas mer mjuka (cuddly) version? Författarnas slutsats är att en fortsatt global innovativ teknikutveckling kräver tydliga ekonomiska incitament och att denna skulle bromsas om skandinaviska system infördes också i USA. Det skulle dessutom innebära en minskad global tillväxttakt som skulle drabba såväl USA som andra länder. Med andra ord, de skandinaviska välfärdssystemen bygger delvis på att andra länder står för den globala teknikutvecklingen som skandinaverna i sin tur kan tillgodogöra sig.

Institutionerna är följaktligen avgörande och de präglas också av inlåsningseffekter där en omläggning av de amerikanska till mer skandinaviska är svår att genomföra eftersom det skulle kunna innebära omedelbara välfärdsförluster för USA.

Entreprenörskap i olika konjunkturfaser

Givet att institutionerna styr entreprenörskap och att dessa varierar mellan länder finns det skäl att förvänta sig länderspecifika mönster vad gäller relationen mellan konjunkturfluktuationer och förändringar i entreprenörskap. Baserat på en analys av OECD-länderna under en dryg 30-årsperiod konstaterar Simon Parker (kapitel 2) att nivån på entreprenörskapet vid en konjunkturchock kan påverkas under lång tid (persistent) men sällan blir permanent och att det kan finnas betydande skillnader mellan länder. Men den övergripande slutsatsen är att det finns utrymme för en ekonomisk politik som kan påverka graden av nyföretagande över konjunkturcykeln. Precis som för andra stabiliseringspolitiska åtgärder är svårigheten att pricka in dessa åtgärder tidsmässigt. Vid mer utdragna kriser, som den nuvarande, minskar dessa svårigheter men istället begränsas politiken av andra restriktioner, inte minst statsfinansiella.

I den framväxande forskningen på detta område visas att ett ökat entreprenörskap följs av en konjunkturuppgång omkring ett till två år senare. Dynamiken följer en Schumpeteriansk kreativ förstörelseprocess där ny teknik eller en innovation leder till att företag konkurreras ut från marknaden, därefter ökar entreprenörskapet och så småningom kan en konjunkturuppgång noteras. Orsakssambanden är svårare att utreda, ofta går det åt båda hållen (nyföretagandet påverkar konjunkturen som också påverkar nyföretagandet), men det tidsmässiga förloppet pekar starkt på att en ökning i entreprenörskapet föregår en ökning i BNP och en minskad arbetslöshet.[5]

Det förefaller också klart att olika typer av entreprenörskap samvarierar med olika faser i konjunkturcykeln. Tim Lamballais Tessensohn och Roy Thurik (kapitel 3) skiljer mellan entreprenörskap i konjunkturens nedgångsfas (recession push effect) och i positiva faser (entrepreneurial pull effect)[6]. Det har att göra med det möjlighetsbaserade och det nödvändighetsbaserade entreprenörskapet som berördes ovan. Utan att gå in på kausaliteten visas att också innovativt och möjlighetsbaserat entreprenörskap i mycket tidiga faser föregår förändringar i konjunkturcykeln, vilket är en utvidgning av tidigare studier som berört unga företag snarare än nya. Det stöder också tidigare resultat.[7] Sambandet är svagare eller obefintligt för nödvändighetsbaserat entreprenörskap med undantag för krisperioden 2007-2011. Då visas att en ökning av nödvändighetsföretagande sammanfaller med en försvagning i konjunkturen och en uppgång i arbetslösheten.

För Sveriges del visar Andersson (kapitel 5) att entreprenörskapet föll kraftigt före och under 1990-talskrisen, men att det nödvändighetsbaserade steg (kontracykliskt) mellan 1993 och 1994 för att därefter falla men fortfarande överskrida det

5. Simon Parkers mått på entreprenörskap är nyföretagande.
6. Tim Lamballais Tennensohns och Roy Thuriks mått på entreprenörskap är egenföretagande/soloföretagande (self employment).
7. I en tidigare analys på unga men etablerade företag visar Koellinger och Thurik (2012) att kausaliteten går från förändringar i entreprenörskap till konjunktursvängningar.

möjlighetsbaserade fram till millenniumskiftet (exklusive jordbruk och gruvnäringar)[8]. Endast entreprenörskapet i tjänstenäringarna återhämtade sig något men nivåerna förblev låga. Även under senare hälften av 2000-talet var nivåerna lägre än före 1990-talskrisen, särskilt för det möjlighetsbaserade entreprenörskapet, vilket indikerar en betydande varaktighet av konjunkturnedgången 1991-1993.

Sammanfattningsvis bör understrykas att forskning kring sambanden mellan entreprenöriell aktivitet och konjunkturförändringar är i sin linda. De empiriska resultaten visar att olika typer av entreprenörskap påverkar, och påverkas av, olika faser i konjunkturcykeln. Likaså framgår att globalt – i detta fall definierat som OECD-länderna – förefaller kausaliteten gå från förändringar i entreprenörskap till konjunktursvängningar men att länderspecifika effekter gör att resultaten är mer diffusa på nationsnivå. Ett skäl kan vara skillnader i lagar och regelverk, ett annat att det förekommer ländervisa skillnader i de entreprenöriella normerna.[9]

Natura non facit saltum: Entreprenöriella normer

En av nationalekonomins förgrundsgestalter, Alfred Marshall (1920), hävdade att natura non facit saltum (naturen gör inga språng) gäller, ekonomin utvecklas trögt. Samtidigt sker kontinuerligt språng i samhället, åtminstone sett över en längre tid. Det kan handla om krig, genomgripande teknologiska förändringar och ekonomiska krascher. Frågan är hur de entreprenöriella aktiviteterna påverkas av sådana förändringar? Det intressanta med starka normer är hur de påverkar utrymmet för snabba förändringar genom en aktiv ekonomisk politik.

I två av de följande kapitlen visas på betydande regionala skillnader i entreprenörskap, trots att dessa regioner lyder under samma övergripande lagar och regelverk. För Sveriges vidkommande illustreras dessa skillnader i Figur 2.

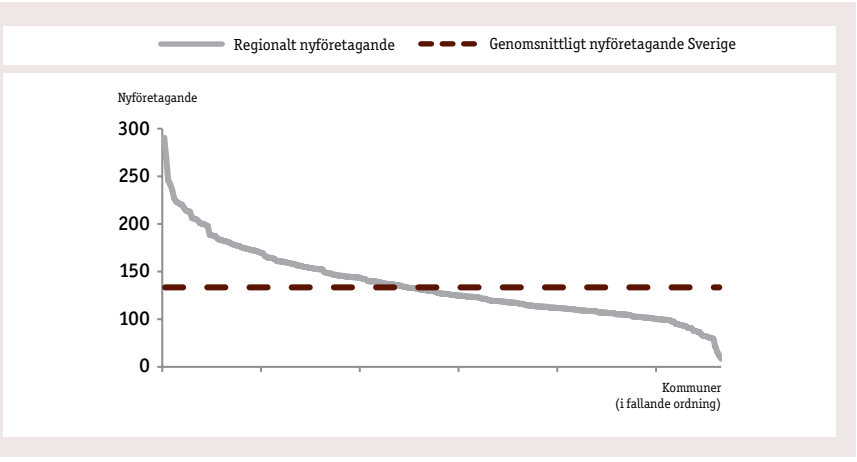
Dessa skillnader har funnits under åtminstone ett par decennier (kapitel 5). Ett ännu starkare mönster framtonar i Tyskland där de regioner som var entreprenöriella 1925 ännu idag dominerar entreprenörskapet (kapitel 4). Det gäller också östra Tyskland som trots krig, och under DDR-tiden ett intensivt motarbetande av entreprenörskap under åtminstone 40 år inklusive kollektivisering, där samma regioner som står för entreprenörskapet under 2000-talet gjorde det 1925.[10]

Resultaten tyder på starka underliggande normer som inte låter sig rubbas ens av mycket stora omvälvningar. Även bortsett från så dramatiska händelser som i forna Östtyskland förefaller regionspecifika faktorer som bottnar i interaktion mellan lokala/regionala politiker och näringsliv, samt olika återföringsmekanismer och

8. Martin Anderssons mått på entreprenörskap är antalet nyetableringar normaliserade av den regionala befolkningen i åldersintervallet 16-64 år.
9. Congreado m fl (2103) noterar t ex stora skillnader mellan USA och Spanien där en chock i USA förefaller ha mer temporära effekter, men vara av mer permanent natur i Spanien.
10. Michael Fritschs och Michael Wyrwichs mått på entreprenörskap är egenföretagande 1925 och nyföretagande 2005.

lärande, att leda till långsiktiga skillnader i såväl synen på entreprenörskap som i entreprenöriella aktiviteter.

FIGUR 2. Skillnaden i nyföretagande i svenska kommuner 2007 (per 10 000 invånare 16-64 år)



Källa: Figur 1, kap 5.

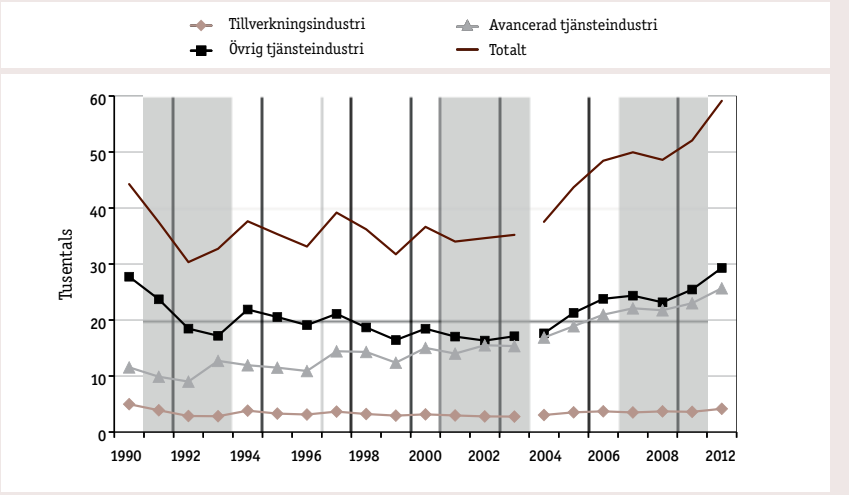
En kontracyklisk entreprenörskapspolitik?

Braunerhjelm och Thulin (2010) visar att entreprenörskapet föll dramatiskt efter 1990-talskrisen för att därefter ligga kvar på betydligt lägre nivå ända fram till och med början av 2000-talet (Figur 3). Krisen på 1990-talet var en Sveriges allvarligaste någonsin där arbetstillfällena minskade med ca 17 procent mellan 1990 och 1994. Effekterna var följaktligen varaktiga (persistenta) och först omkring ett decennium senare (2003) börjar nyföretagandet stiga. Intressant är att det åtminstone t o m 2010, med undantag för 2008, fortsatt att öka (dvs även under krisåret 2009).

Merparten av detta nyföretagande kan karaktäriseras som möjlighetsbaserat. Ett intressant inslag är att de s k RUT- och ROT-reformerna sannolikt har bidragit till denna ökning men också att de – helt slumpmässigt – också kan ha fungerat konjunkturstabiliserande eftersom de råkade sammanfalla med en nedgång i konjunkturen. Reformerna tyder också på att de ofta nedtonade ekonomiska incitamenten även finns i det svenska entreprenörskapet. Det kan måhända tillhöra den svenska normen att tona ner ekonomiska motiv för att starta företag. Som nyligen visats i en studie på norska data (Berglann m fl 2011), förefaller ekonomiska drivkrafter vara viktiga för att starta företag.

Skulle det vara fallet att förändringar i entreprenörskap systematiskt föregår konjunktursvängningar med ett eller ett par år, kan det finnas skäl att utforma en entreprenörskapspolitik som är kontracyklisk.

FIGUR 3. Nyföretagandet under tre kriser fördelat på tre branscher, 1990-2010



Källa: Uppdaterad från Braunerhjelm och Thulin (2010).

Den korta sikten: En politik för att stabilisera konjunktursvängningar

Tre av de följande fyra kapitlen fördjupar sig i sambandet mellan förändringar i entreprenörskapet och i konjunktursvängningarna. I samtliga kapitel konstateras att entreprenörskapet är en avgörande faktor för en ekonomis eller regions utveckling genom att bidra till förnyelse, innovation och sysselsättningstillfällen. Entreprenörskapet styrs av såväl kort- som långsiktiga faktorer, och det kan finnas skäl att diskutera de ekonomisk-politiska insatserna utifrån olika tidsperspektiv. Konjunktursvängningar kan i detta sammanhang föranleda åtgärder som förväntas ha en mer kortsiktig effekt.

En entreprenörskapspolitik för att parera konjunktursvängningar kan, baserat på analysen i de följande kapitlen, sammanfattas på följande sätt:

- Uppgångar i det möjlighetsbaserade nyföretagande föregår en konjunkturuppgång och bör kunna användas för att förutsäga konjunktursvängningar. Vidare förefaller konjunktursvängningar ha varaktiga effekter på denna typ av entreprenörskap, vilket innebär att det finns utrymme för ekonomisk-politiska insatser.

- Stabiliseringspolitiska åtgärder bör inriktas på finansieringsinsatser som tydligt riktas mot nedgångsfaser i konjunkturen. Dessa bör utgå från olika ekonomiers specifika förutsättningar och kan omfatta statliga lånegarantier, riskkapitalinsatser i samarbete med privata aktörer, men dock inte enbart offentligt riskkapital. Vidare bör det noga övervägas om större, befintliga företag, som

ofta har en starkare förhandlingsposition, är den viktigaste målgruppen när olika typer av restriktioner på kapitalmarknaderna ska avhjälpas. Snarare bör fokus läggas på de mindre företagen.

- En kris leder ofta till krav på nya regleringar. En del av dessa är motiverade men behovet av att visa handlingskraft får inte överskugga problemen med en ökad regleringsbörda som hämmar företagandet. Det upplevda administrativa krånglet som följer av ökade regleringar har visat sig vara starkt hämmande för entreprenörskap.

- Arbetslöshetsförsäkringen bör utformas så att incitament att söka sig till nya verksamheter, inklusive företagande, inte dämpas. En allt för generös ersättning innebär att individer riskerar hamna i arbetslöshet under lång tid.

- Det s k nödvändighetsbaserade entreprenörskapet är kontracykliskt så tillvida att det ökar i samband med konjunkturnedgångar. Utfallet av detta är i regel sämre än det innovativa, möjlighetsbaserade entreprenörskapet. Ett tidsbegränsat och väl avvägt sysselsättningsstöd kan dock positivt påverka detta företagande, liksom kvalificerad rådgivning. Erfarenheterna skiljer sig radikalt mellan olika länder, vilket beror på hur dessa system utformats.

- Det är också viktigt att andra offentliga insatser, som t ex offentlig upphandling, inte avvecklas under en kris utan fortsätter på samma nivå. Däremot kan det pga svårigheter att bedöma när effekterna av sådana åtgärder infaller i tid, inte användas som ett konjunkturreglerande instrument.

- Övergripande bör målet vara att skapa goda förutsättningar för ett kvalitativt och tillväxtorienterat entreprenörskap snarare än ett kvantitativt. Det förutsätter goda generella villkor för entreprenörskapet.

Den långa sikten: Att bygga entreprenöriella normer

Att förändra en norm eller en entreprenörsskapskultur tar lång tid. På motsvarande sätt kan det förväntas att kollapser i sådana kulturer tar lång tid att återställa. Sveriges omvandling från en entreprenöriell och innovativ ekonomi i slutet av 1800- och början av 1900-talet, till att domineras av storföretag och uppbyggnaden av en offentlig sektor, kan illustrera trögheten i dessa processer. Det var först under 1990-talets IT-hype som Sverige återigen fick en internationell status som en entreprenörsdriven ekonomi.

Institutionella reformer för att uppmuntra entreprenörskap och innovation tränger således igenom först på lång sikt och samverkar med informella institutioner. Normer och värderingar förefaller ärvas mellan generationer, vissa forskare hävdar att den relevanta tidsskalan för informella institutioner uppgår till århundraden snarare än årtionden.

Det innebär inte att en sådan politik är mindre angelägen. Tvärtom kan den ses som ett slags friskvård i förebyggande syfte att göra Sverige mer uthålligt inför en allt större rörlighet bland företag och individer. Just beständigheten i entreprenörskapets geografi över tid och dess mönster under ekonomiska chocker (som kraftiga konjunktursvängningar) talar för att regional entreprenörskapskultur är en viktig och ekonomiskt betydelsefull faktor för stabilitet.

Utbildningsinsatser för att belysa entreprenörskapets roll kan vara ett sätt att bidra till en långsiktig entreprenöriell norm, liksom förekomsten av förebilder (role models). Likaså förefaller medverkan av entreprenörer i såväl utbildning som i andra (politiska) sammanhang vara något som påverkar synen på och normerna kring entreprenörskap.

Policyåtgärder och deras förväntade regionala effekter bör sättas i relation till den regionala kontext och entreprenörskapskultur i vilken åtgärderna utformas och implementeras. En politisk strategi byggd på att en och samma modell passar alla är sannolikt ineffektiv. Samtidigt kan det inte förväntas att regionerna själva klarar av att införa en entreprenöriell kultur utan stöd från en nationell politik som främjar entreprenörskap och innovation.

Sammanfattningsvis tyder resultaten på att det finns utrymme för policyåtgärder som på kort sikt kan bidra till att dämpa effekterna av en konjunkturnedgång, dvs att göra entreprenörskapspolitiken kontracyklisk, men att det finns betydande landspecifika skillnader som måste beaktas vid politikens utformning. På längre sikt kan etablerandet av en entreprenöriell norm bidra till att mildra effekterna av ekonomiska störningar. Samtidigt betonar de medverkande rapportförfattarna att man fortfarande rör sig på förhållandevis osäker mark och att slutsatserna behöver understödjas med ytterligare forskning.

Rapportens innehåll. En svensk sammanfattning

Entreprenörskap och konjunkturcykler: Vilket utrymme finns för ekonomisk politik?

Det råder en bred enighet om entreprenörskapets vikt, kanske avgörande roll, för sysselsättning, innovationer och tillväxt.[11] Följaktligen är entreprenörskapet också viktigt för välstånd och välfärd. Indirekt pekar dessa rön på att entreprenörskap bör ha ett samband med den samlade ekonomiska aktiviteten i en ekonomi, men här är kunskapen betydligt mer bristfällig. Förhållandet mellan entreprenörskap och konjunkturer är i hög grad outforskade. Mot bakgrund av den internationella kris, som nu går in på sitt femte år, kan en ökad förståelse kring dessa samband vara avgörande för hur världen ska ta sig ur den lågkonjunktur som förefaller fortsätta under både 2012 och 2013.

11. Entreprenörskap används här synonymt med nyföretagande i enlighet med Holz-Eakin definition 2000.

De frågor som Simon Parker ställer i kapitel 2 rör hur, och om, en entreprenörskapsinriktad policy kan bidra till att motverka konjunktursvängningar och visa vägen ut ur recessioner. Många länder tycks ha nått vägs ände i krisbekämpning med traditionell penning- och finanspolitik. Ett första led i att förstå dessa samband är att studera om konjunktursvängningar och förändringar i entreprenörskap sker parallellt eller kontracykliskt, om det finns en tidsförskjutning mellan dessa förändringar, hur lång denna i sådana fall är samt hur orsakssambanden ser ut. Är det variationer i entreprenörskap som orsakar konjunktursvängningar eller det omvända? Eller påverkar dessa skeenden varandra? Slutligen tar Parker upp frågan om entreprenörskapets effekter på arbetslösheten i olika faser av konjunkturcykeln. Nya och mindre företag skapar en oproportionerlig stor andel av nettotillskotten i sysselsättningen medan större företag tenderar minska sysselsättningen, särskilt i lågkonjunktur. Likaså är det väl belagt att nyföretagande stiger i tider av arbetslöshet.

En viktig aspekt för den ekonomiska politiken är om ekonomiska förändringar (chocker) som leder till konjunktursvängningar har tillfälliga, utsträckta eller permanenta effekter på entreprenörskap. Är effekterna tillfälliga eller permanenta är utrymmet för ekonomisk politik mindre motiverat eller begränsat. Genom att använda aggregerade tidsserier för nyföretagandet i 23 OECD-länder för perioden 1972-2006 konstaterar dock Parker att nivån, vid tillfälliga konjunkturchocker, kan påverkas under lång tid men sällan blir permanent. En slutsats för den ekonomiska politiken blir därför att det finns utrymme för en ekonomisk politik som kan påverka graden av nyföretagande. Effekterna är dock ofta länderspecifika.

Hur ser de tidsmässiga sambanden ut och är entreprenörskapsnivån kontracyklisk eller procyklisk? Flera studier etablerar ett samband där ett ökat entreprenörskap med relativt kort tidsfördröjning följs av en konjunkturuppgång. En Schumpeteriansk kreativ förstörelseprocess där utslagning av företag – t ex därför att en ny teknologi utvecklats – föregår nyföretagande och entreprenörskap, vilket i sin tur leder till en uppåtgående konjunktur, tonar fram i dessa analyser. Vad som är orsak och verkan kräver dock ytterligare analys. Genom att använda flera metoder som bl a tar hänsyn till strukturella förändringar (t ex att ny teknologi får sitt genombrott eller att nya regelverk införs) visar Parker att en ökning i entreprenörskap följs av en ökning i BNP och en minskad arbetslöshet med ungefär ett års tidsfördröjning.

Hur stämmer dessa resultat med tidigare studier som i stället visat att nyföretagandet ökar vid hög arbetslöshet? Sambanden är komplexa och i en s k Granger-analys visar Parker att effekterna går åt båda hållen: entreprenörskap påverkar och påverkas av konjunkturcykeln. I tider av konjunkturuppgång växer entreprenörskap och ekonomin parallellt och driver på varandra ända tills en chock av något slag leder till ett minskat förtroende för den fortsatta tillväxten. Några entreprenörer skalar ner sin verksamhet, andra går i konkurs men många lever kvar. Samtidigt kommer fler arbetslösa att starta företag och några företag kommer kunna utnyttja att lönenivåerna faller och anställa fler (se också kapitel 3). Så småningom är ekonomin tillbaka i en uppåtgående fas. Parkers forskning tyder på att konjunkturcykelns effekt på entreprenörskap dominerar över den effekt som entreprenörskapet har på

konjunkturcykeln, åtminstone under perioden 1993-2010, men att styrkan i dessa effekter kan skilja sig åt mellan tidsperioder.

Övergripande är kunskapen om dessa mekanismer dock mycket begränsad. Schumpeterianska kreativa förstörelseprocesser, som startar vid ett teknologiskt genombrott, kan vara en faktor som driver på konjunkturcykeln. Andra förklaringar, bortsett från att arbetslösa tenderar att starta nya företag, kan vara tillgång på riskkapital som är lätt att erhålla i uppgångar men som marknaden dräneras på i nedgångar (Bernanke & Gertler, 1989). Dagens forskning saknar svar på vilka effekter som dominerar.

Slutligen analyserar Parker också effekterna av nyföretagande på sysselsättningen. Med få undantag visar tidigare forskning på samvariation men den klarar inte att definiera tidsförskjutningar och orsakssamband mellan sysselsättning och entreprenörskap.[12] Den bakomliggande mekanismen är att i en recession startar arbetslösa företag som en sista utväg för att komma ur arbetslöshet. Detta bidrar till att lindra en lågkonjunktur men de positiva effekterna är begränsade. Skälet är att kvaliteten på detta entreprenörskap är låg. Ofta tjänar dessa entreprenörer mindre än de som blir återanställda (men mer än de som är kvar i arbetslöshet), anställer färre än andra företag och slås ut snabbare. Ju längre perioder av arbetslöshet, desto fler startar egna företag.

När så småningom en konjunkturuppgång tar vid förstärks incitamenten att anställa. Detta sker i första hand i andra företag än de som startats pga arbetslöshet (s k nödvändighetsbaserat företagande). I sin tur leder det till fler anställningar i möjlighetsbaserat och växande företagande som bidrar mer till sysselsättning, innovation och kunskapsöverföring (Congregado et al 2013). Även vad gäller arbetslöshet och entreprenörskap framkommer således ett simultant förhållande; ökad arbetslöshet under lågkonjunkturer driver på nyföretagandet och när konjunkturen förstärks tenderar företagen vara mer benägna att anställa fler.[13]

Sammantaget analyserar Simon Parker i sitt kapitel entreprenörskapets roll i konjunkturcykeln och hur insatser för nyföretagande kan bidra till att moderera såväl nedgångar som kraftiga uppgångar. Samtidigt betonas svårigheterna i att entydigt visa hur orsakssambanden ser ut, forskningen befinner sig fortfarande i ett tidigt skede båda vad gäller dessa samband, lämpliga ekonomisk-politiska instrument och hur dessa kan utformas på ett effektivt sätt.

Vilka blir då de ekonomisk-politiska slutsatserna av dessa rön om sambandet mellan entreprenörskap, sysselsättning och konjunkturer? Tekniksprång och därmed sammanhängande produktivitetsökning kan inte påverkas av politiker i någon nämnvärd utsträckning; tvärtom är offentligt stöd till innovationer i regel felriktade

12. Thurik et al (2008), Koellinger & Thurik (2012) samt Lamballais Tessensohn & Thurik (denna volym) är några av dessa undantag.
13. Som visas i kapitel 3 är effekterna på konjunkturcykeln av olika typer av företagande betydande och sker med olika tidseftersläpning.

och feltajmade (och därmed procykliska), även om visst vetenskapligt stöd finns för offentliga ingripanden för att korrigera marknadsmisslyckanden.

Parker framhåller istället kapitalbehovet hos entreprenörer. I många länder försöker regeringar förmå bankerna att fortsätta låna ut till småföretag även i dåliga tider genom olika åtaganden och lättnader i kreditgivningen, genom att göra offentligt kapital (lån eller venture capital, VC) tillgängligt för småföretag eller genom statliga lånegarantier. Dessa åtgärder har testats i en rad länder, t ex Frankrike, Irland, Kanada, Storbritannien, Tyskland och USA. Att inrätta en särskild småföretagarbank, stödd av offentliga medel, har också diskuterats i Storbritannien.

Utvärderingar av dessa åtgärder visar i regel på mycket blygsamma effekter. Den tidigare empiriska litteraturen pekar också på att offentliga insatser bör vara marknadskompletterande och ske i samklang med privata investerare i tider då tillgången på kapital minskar (Lerner 2009). Samtidigt noterar Parker att tidigare studier inte tar hänsyn till om ekonomin befinner sig i låg- eller högkonjunktur. Statliga insatser för att öka kreditmöjligheter och tillgång på kapital i lågkonjunktur riskerar i betydligt mindre utsträckning att tränga ut privat finansiering. Samma argument kan användas med avseende på egen kapitalfinansiering. Tillgången på VC är starkt procyklisk pga det sätt som fonderna är strukturerade, med eftersläpning i informationen om investeringsmöjligheter. Offentliga insatser bör därför inte göras i goda tider eftersom detta i stället riskerar att bidra till överhettning.

Likaså har tidigare studier konstaterat att insatser för att hjälpa arbetslösa att starta eget – i regel i form av bidrag och/eller lån, kombinerat med någon form av rådgivning – är nedslående.[14] Dock föreligger rätt betydande skillnader mellan länder vilket förklaras av hur väl anpassade olika åtgärdsprogram är och av deras kvalitet.

Författaren drar slutsatsen att det kan finnas en principiell roll för regeringar att vidta entreprenörskapsfrämjande åtgärder främst vid recessioner. Problemet är att effektiviteten hos specifika åtgärder för att främja företagande i praktiken inte blir väldesignade för sitt ändamål och får oftast inte heller avsedda effekter. Med dessa förbehåll föreslår Parker följande policyområden där välavvägda insatser att överbrygga nedgångar kan göra mest nytta.

I första hand bör åtgärder genomföras som bidrar till att förbättra kapitaltillgången under finanskriser och lågkonjunkturer för entreprenörer och mindre företag. Det förutsätter att insatsen (liksom andra för att stimulera entreprenörskap) kan avvecklas när konjunkturen vänder uppåt för att undvika utträngnings- och andra negativa effekter.

14. Vissa senare erfarenheter uppvisar mer positiva resultat (Calienda 2009).

Andra åtgärder, t ex sysselsättningsstöd eller rådgivning för att starta företag, kan spela en roll men är sannolikt mer strukturella än tillfälliga till sin karaktär. Även offentlig upphandling, dvs ett slags Keynesiansk efterfrågestimulans, som riktar sig till nya samt små och medelstora företag (exempelvis SBIR i USA[15]) kan ha en positiv effekt, men är svårt att tillämpa som konjunkturregulator eftersom det bygger på att tidsmässigt kunna anpassa insatserna till konjunkturnedgångar. Viktigt är dock att upphandlingen inte minskar i ett läge med stora offentliga underskott i flertalet europeiska länder, vilket skulle innebära en procyklisk snarare än kontracyklisk effekt. På motsvarande sätt är entreprenörskapsutbildning på gymnasie- eller högskolenivå i och för sig vällovligt men endast på längre sikt och kan inte kopplas till svängningar i konjunkturcykeln.

Politikens övergripande mål måste vara att skapa förutsättningar för ett kvalitativt och tillväxtorienterat entreprenörskap snarare än kvantitativa sysselsättningsmål. Det senare kan motiveras men bör underordnas det förra.

Det tidiga entreprenörskapet och konjunkturcykeln

Tim Lamballais Tessensohn och Roy Thurik ställer (i kapitel 3) frågan om entreprenörskapspolitiken kan påverka konjunkturcykeln och om det är olika typer av entreprenörskap som står för en eventuell påverkan. Tidigare har visats att entreprenörskap förefaller positivt påverka tillväxttakten, även om det pågår en diskussion om orsakssambanden. Mer tydliga samband har konstaterats mellan entreprenörskap och arbetslöshet, de verkar påverka varandra genom s k push- och pulleffekter. Den första innebär att när en ekonomi viker så knuffas före detta anställda ut i eget företagande medan pulleffekten syftar på ett entreprenörskap som bottnar i att en affärsmöjlighet med förväntad lönsamhet har definierats. Dessa typer av entreprenörskap brukar också kallas nödvändighets- och möjlighetsbaserat. Det innebär att olika typer av entreprenörskap kan förväntas påverka – och bli påverkade av – konjunkturcykeln på olika sätt. Lamballais Tessensohn och Thurik ställer frågan om entreprenörskap i tidiga faser dels kan förutspå konjunkturcykler, dels om det gäller olika typer av entreprenörskap samt slutligen om effekterna går från konjunkturcykel till entreprenörskap eller tvärtom.

Sedan Schumpeters (1911/34) analys av kreativa förstörelseprocesser och långa vågor är det mycket få studier som belyser förhållandet mellan entreprenörskap och konjunkturcykeln. Parker, som vi redan nämnt, är en av den moderna forskningens pionjärer. Konjunkturcykler har ansetts bero på förändringar i investeringar och sysselsättning samt exogena chocker som ofta uppstått på ekonomins utbudssida.

15. Small Business Innovation Research (eller SBIR)-programmet går ut på att federala myndigheter med forskningsbudgetar på över 100 miljoner dollar reserverar en viss procent av sina kontrakt till småföretag.

Schumpeters arbeten följdes av teorier om s k implementeringscykler (Schleifer 1986, Francois och Lloyd-Ellis 2008).

Till skillnad från en tidigare studie (Koellinger och Thurik 2012) där unga men etablerade företags inverkan på konjunkturen analyserades, fokuserar författarna på nyetableringar och konjunkturcykeln. De ställer följande frågor: Är entreprenörskapet procyklist eller kontracykliskt när en ekonomi växer? Teoretiska modeller ger olika svar. En ytterligare fråga är om olika typer av entreprenörskap har olika effekt på konjunkturcykeln och om dessa infaller i olika faser av konjunkturcykeln?

I Kollinger och Thurik (2012) skilde man på globala och nationella förändringar i entreprenörskap, där de förra byggde på viktade data för respektive land. Man konstaterade, baserat på ett datamaterial som sträckte sig över perioden 1972-2007 och omfattade 22 länder, att det fanns ett tydligt samband mellan globalt entreprenörskap och konjunktursvängningar där tester av orsakssambanden tyder på att förändringar i entreprenörskap ledde till förändring i konjunkturcykeln, dvs entreprenörskapet var procykliskt. På det nationella planet var det dock svårare att fastställa några samband, bortsett från att arbetslöshet förefaller påverka nystart av företag. Dessa skillnader kan bero på landspecifika effekter som är svåra att identifiera statistiskt, att nationella konjunktursvängningar sprids genom internationell handel eller genom att nivån på entreprenörskapet är mer stabil på aggregerad än nationell nivå. Ett annat skäl är att olika typer av entreprenörskap har olika effekter på konjunkturcykeln där en typ är procyklisk och en annan kontracyklisk.

Intuitivt förefaller det rimligt att entreprenörskapet föregår en uppgång i konjunkturen. Entreprenören tar en stor risk, satsar kapital och andra resurser med förhoppningen att det ska generera framtida intäkter. Det är osannolikt att dessa satsningar sker i en vikande konjunktur.

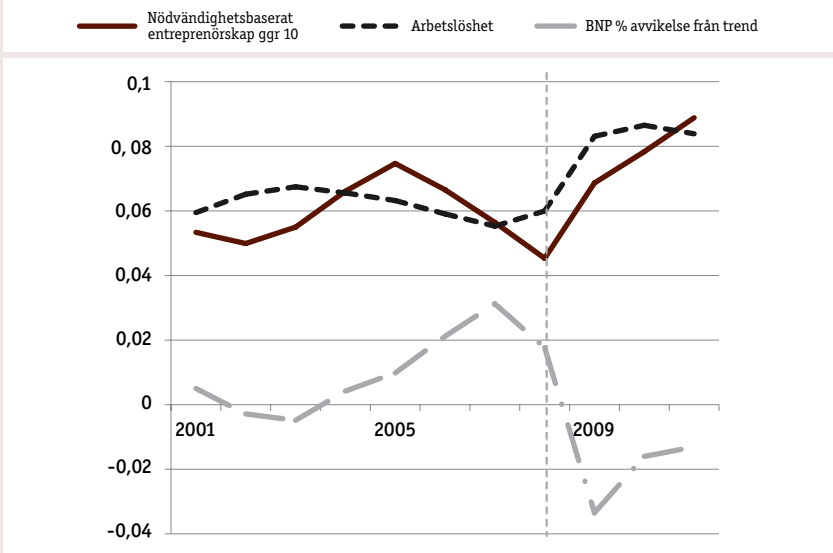
Författarna är noga med att framhålla att de i första hand vill studera om entreprenörskap och nyföretagande föregår en uppgång i konjunkturcykeln, utan att leda i bevis att kausaliteten går från entreprenörskap till konjunktursvängning.[16] Att ett ökande entreprenörskap förutspår högre tillväxt skulle kunna bero på att entreprenören introducerar nya varor och tjänster, ökar konkurrenstrycket, minskar arbetslösheten eller bidrar till kunskapsspridning mer generellt. När konjunkturen står på topp kan entreprenören tveka om dess uthållighet, risken för en nedgång blir tydligare och den framtida alternativkostnaden för att fortsätta som entreprenör eventuellt högre. I nedgångsfasen kan det också vara entreprenörerna och nystartade företag som framförallt innoverar medan äldre och etablerade företag ofta är fastinvesterade i en teknik som minskar deras innovationsbenägenhet.

Lamballais Tessensohn och Thurik delar inte bara in entreprenörskapet i möjlighets- och nödvändighetsbaserat utan också i innovativt och imitativt och hur dessa typer av entreprenörskap samvarierar med konjunkturcykeln och arbetslöshet. Analysen

16. Se Parker för en diskussion om kausalitetsproblemen vad gäller entreprenörskap och konjunktursvängningar.

omfattar 22 OECD-länder under perioden 2001-2011.[17] Figur 4 visar relationen mellan nödvändighetsbaserat entreprenörskap, arbetslöshet och konjunkturcykeln medan Figur 5 illustrerar hur möjlighetsbaserat entreprenörskap (fördelat på innovativt och imitativt) samvarierar med konjunkturcykeln. Som framgår av Figur 4 förefaller det nödvändighetsbaserade företagandet vara nära kopplat till arbetslöshetens utveckling och ligga tidigt i konjunkturcykeln. Mönstret är delvis annorlunda för det möjlighetsbaserade där nedgången börjar ett par år innan konjunkturen viker neråt, följt av en försiktig uppgång under det djupaste krisåret 2009, för att därefter ytterligare skjuta fart. Författarna konstaterar också att merparten av allt entreprenörskap kan hänföras till innovativt och är möjlighetsbaserat för OECD-länderna (mellan 74 och 83 procent), att fördelningen mellan olika typer är relativt stabil och att det i första hand är nödvändighetsbaserat entreprenörskap som varierar. Likaså är variationerna betydande på nationsnivå. För Sveriges del kan noteras att vi ligger under snittet vad gäller innovationsbaserat nyföretagande, men betydligt över vad gäller det totala möjlighetsbaserade entreprenörskapet.

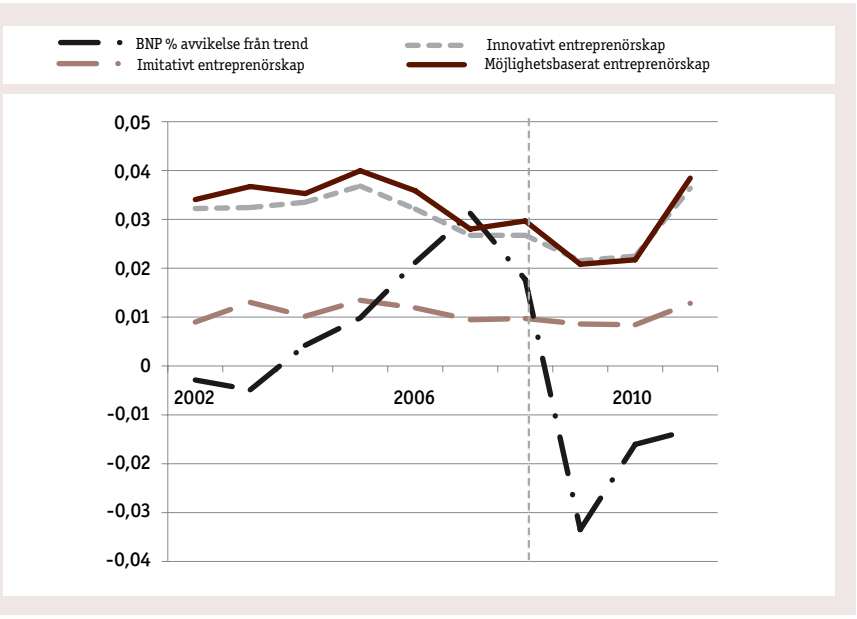
FIGUR 4. Nödvändighetsbaserat entreprenörskap multiplicerat med 10, arbetslöshet och BNP % avvikelse från trend (konjunkturcykeln), 22 länder



Källa: Figur 5, kap 3.

17. Data hämtas från en rad olika källor, främst OECD och Global Entrepreneurship Monitor. För en svensk sammanfattning av GEM-studien, se Braunerhjelm m fl (2012).

FIGUR 5. Innovativt och imitativt entreprenörskap, BNP % avvikelse från trend (konjunkturcykeln), 22 länder.



Källa: Figur 7, kap 3.

Lamballais Tessensohn och Thurik visar i sin analys hur olika typer av entreprenörskap i tidiga skeden samvarierar med konjunkturcykelns olika faser. Till skillnad från analysen i Koellinger och Thurik, där också kausaliteten testas mellan entreprenörskap och konjunkturväxlingar, görs inga test av orsakssambanden. Men det ligger nära till hands att förvänta sig ett liknande samband i detta fall. I denna rapport (kapitel 3) testar författarna i första hand hypotesen att förändringar i entreprenörskap föregår svängningar i konjunkturen. En enkel sambandsanalys mellan innovativt och möjlighetsbaserat entreprenörskap i tidiga faser visar att förändringar i detta föregår – predikterar – förändringar i konjunkturcykeln, men att mönstret för delperioden 2007-2011 ser något annorlunda ut. Förändringar med störst förklaringsvärde förefaller inträffa två år innan det sker en trendmässig förändring i konjunkturen. En ökning (minskning) i det möjlighetsbaserade entreprenörskapet följs av en konjunkturuppgång (nedgång) två år senare. Beträffande nödvändighetsbaserat entreprenörskap är sambandet betydligt svagare utom för just perioden 2007-2011, dvs krisåren, då sambandet blir starkare och negativt.

Ett motsvarande samband noteras med avseende på arbetslösheten. En uppgång (nedgång) i det innovativa och möjlighetsbaserade entreprenörskapet samvarierar med en minskad (ökad) arbetslöshet.

Författarna drar slutsatsen att det finns starka skäl som talar för att förändringar i det möjlighetsbaserade företagandet föregår förändringar i konjunkturcykeln med en eftersläpning på ett till två år. Men också att det är stora skillnader mellan olika typer av entreprenörskap och där särskilt det nödvändighetsbaserade förefaller starkt länkat till förändringar i arbetslösheten och inte föregår förändringar i konjunkturen. Intuitionen i detta är att möjlighetsbaserat entreprenörskap kan antas vara baserat i individens bedömning om den framtida ekonomiska utvecklingen. Förväntar sig denne en god utveckling är sannolikheten högre att planerna på att starta ett företag förverkligas. Detta kan i sin tur leda till fler sysselsatta, ökade investeringar och en högre köpkraft som bidrar till att förstärka konjunkturen. Samtidigt påpekar författarna att det är svårt att utreda hur sambanden löper. Gör entreprenören sin bedömning därför att konjunkturen är i en uppåtgående eller stark fas mer generellt? Utvecklingen under 2000-talets första hälft tyder inte på att så är fallet, då en stark konjunkturuppgång sammanföll med en nedåtgående trend för det möjlighetsbaserade entreprenörskapet, kanske därför att tvivel rådde vad gällde de långsiktiga förutsättningarna för en fortsatt uppgång.

Oaktat orsakssambanden finns det tydliga kopplingar mellan entreprenörskapets nivå, fas i konjunkturcykeln och arbetslöshet där en ekonomisk politik som stimulerar entreprenörskap kan dämpa arbetslöshet och en fortsatt svag konjunkturutveckling. Men det är viktigt att skilja på olika former av nyföretagande. Författarna förordar policyinsatser på tre områden: För det första bör arbetslöshetsunderstöden inte vara för generösa eftersom det tenderar att permanenta arbetslösa och minska deras sökbeteende, inklusive mot eget företagande. För det andra måste regleringsbördan hållas på rimliga nivåer, trots att kriser ofta leder till krav på betydande regleringsinsatser. Slutligen är det viktigt för de politiska beslutsfattarna att hålla sig neutrala gentemot större företag som ofta har en starkare förhandlingsposition än mindre och nya företag.

Betydelsen av en entreprenörskapskultur. Empiriska belägg och policyslutsatser

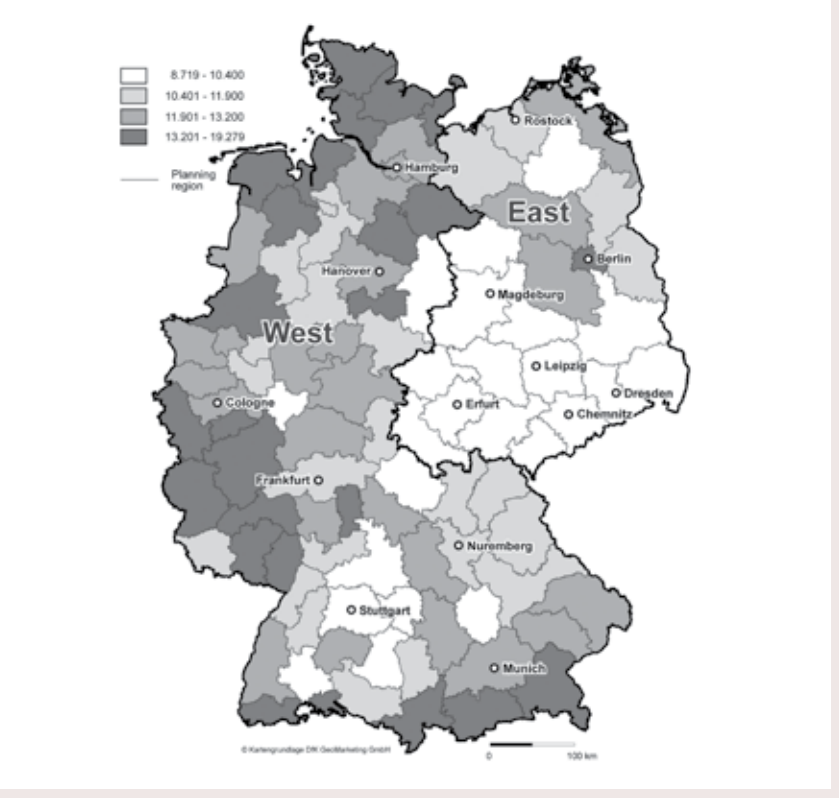
Tidigare studier har konstaterat stora skillnader mellan regioner inom ett och samma land vad gäller entreprenörskapets nivå och synen på entreprenörskap (North 1994, Sternberg 2009). Dessa skillnader har dessutom visat sig vara seglivade och bestå i både ett och två decennier. Genom att använda regionala data på Öst- och Västtyskland som sträcker sig tillbaka till 1925 hävdar Michael Fritsch och Michael Wyrwich (kapitel 4) att entreprenörskapskulturen kan bita sig fast betydligt längre än ett par decennier. Än mer frapperande är att dessa regionala skillnader överlevt förödande krig, årtionden av socialistisk planekonomi, migration och kompetensflykt. Författarna förklarar detta med förekomsten av en varaktig, regional entreprenörskapskultur.

Vari består en sådan regional entreprenörskapskultur? Vissa specifika förutsättningar som av naturliga skäl inte ändras särskilt mycket över tid kan vara en förklaring, men författarna analyserar fenomen som de definierar som ”en positiv kollektiv programmering [i människors] sinnen”, eller en ”aggregerad psykisk egenskap” där människor i en viss region har positiva uppfattningar om individualism, oberoende och

prestation vilket leder till en positiv uppfattning om entreprenörskap. Kännetecknande för ”kultur” är att den förändras gradvis och långsamt och därför överlever plötsliga ekonomiska förändringar och kriser. Därför är Tyskland ett särskilt intressant exempel, där det finns data över nyföretagande och egenföretagande för en 80-årsperiod som dessutom kännetecknats av stora och allvarliga händelser; 1929 års krasch, nazisternas makttillträde 1933, andra världskriget, segrarmakternas ockupation därefter, massiva flyktingströmmar i krigets spår återuppbyggnaden och till slut återföreningen 1990. Östtyskland upplevde 40 år av socialiststyre och övergången till marknadsekonomi var också en chockterapi. Mellan 1989 och 1991 minskade andelen sysselsatta inom tillverkningsindustri i forna Östtyskland från 49 till 16 procent.

Författarna utgår från data över egenföretagande utanför jordbrukssektorn som andel av alla sysselsatta, nedbrutet på regioner i Tyskland. Andelen egenföretagare används som ett mått på entreprenöriell aktivitet (Figur 6).

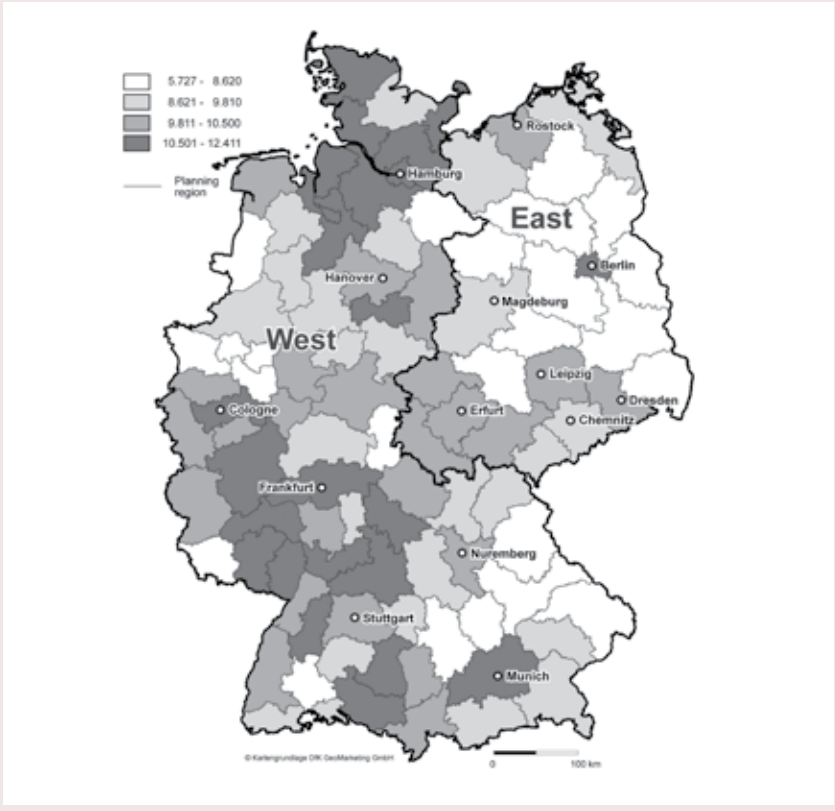
FIGUR 6. Andel nyföretagare regionalt fördelat i Tyskland 2005.



För definitioner, se kapitel 4.

I genomsnitt ligger områden med mer entreprenörskap i västra Tyskland medan regionerna i den östra delen i genomsnitt kännetecknas av en lägre aktivitet. I det som sedermera blev Östtyskland hade områdena i söder 1925 en relativt hög entreprenöriell aktivitet medan områden runt Berlin hade mycket låg andel egenföretagare (Figur 7).

FIGUR 7. Andel egenföretagare regionalt fördelat i Tyskland 1925 (exkl jordbruk).



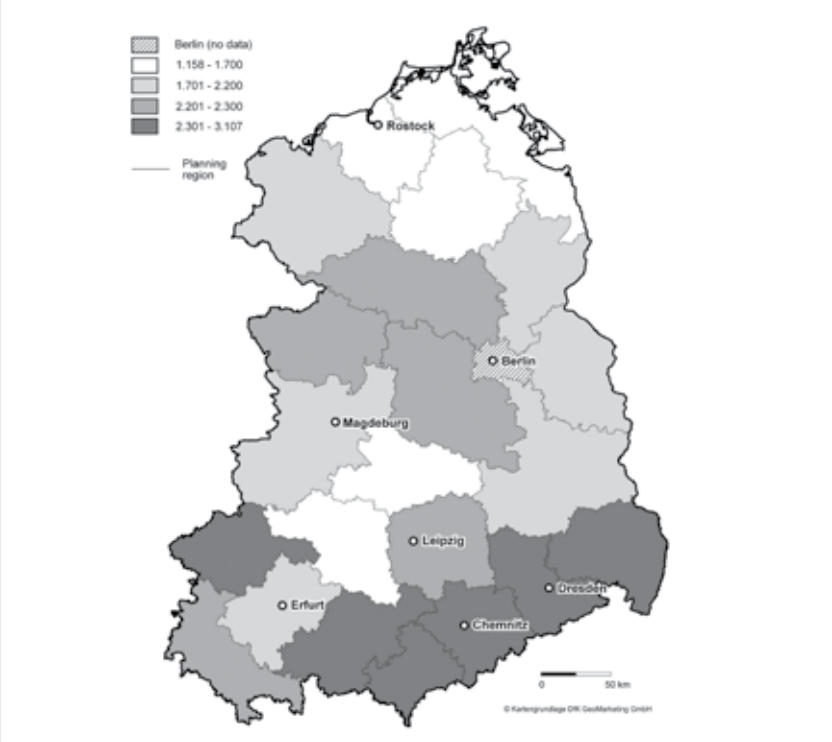
För definitioner, se kapitel 4.

De mer entreprenöriella delarna karaktäriserades av en längre och mer djupgående industriell tradition, liksom av ett jordbruk som präglades av småbruk snarare än storskaligt jordbruk. I jämförelsen med 2000-talet används också graden av årligt nyföretagande 2000-2005 per 1000 invånare, vilket är ett mått på dynamiken i företagandet.

Mellan 1949 och 1989 då staten Östtyskland bedrev en uttalad anti-företagarpolitik pressades det privata företagandet radikalt tillbaka genom massiv socialisering av existerande företag och förhindrande tillkomsten av nya (Pickel 1992). Före

återföreningen 1989 var endast 1,8 procent av den arbetsföra befolkningen egenföretagare, medan motsvarande andel i Västtyskland var 10,5 procent. Dock lyckades inte regimen att helt utplåna småföretag och i de regioner som tidigare hade högre andel entreprenörskap, avstod också en större andel av t ex hantverksföretag att ansluta sig till socialistiska kooperativ. De regioner som i slutet av DDR-epoken (Figur 8) hade relativt högre andel egenföretagare uppvisade några år efter återföreningen också högre takt i nyföretagandet och hade alltså klarat övergången till marknadsekonomi relativt bättre än andra delar av landet.

FIGUR 8. Andel egenföretagare regionalt fördelat i forna Östtyskland 1989.



För definitioner, se kapitel 4.

Regressionsanalyser avseende östra Tyskland avslöjar ett robust signifikant positivt samband mellan egenföretagande 1925, nivån på egenföretagandet 1989 efter 40 år av socialism, och förändringar i egenföretagandet under perioden 2000 – 2005. Denna positiva effekt kvarstår även då författarna kontrollerat för regional industristruktur 1925 och inkluderat andra variabler som förklarar nyföretagandet, t ex andelen

FoU-anställda i regionen, regional arbetslöshet och befolkningstäthet. Författarna drar därför slutsatsen att den historiska nivån på egenföretagandet är en viktig del i förklaringen av nyföretagandet idag.

Den relativa stabiliteten i det regionala entreprenörskapet grundas enligt författarna i tröga och svårföränderliga regionala entreprenörskapskulturer. Vad består då denna regionala kultur av? Fritsch och Wyrwich delar upp fenomenet i politiska respektive normativa-kognitiva kulturlager. Till de normativa-kognitiva räknas utbredd social acceptans för egenföretagande, entreprenöriella värderingar hos människorna i regionen, rik tillgång på personer med entreprenörsegenskaper och många förebilder. Bland de politiska förklaringsvariablerna nämns företagarvänliga lagar och regler, en stödjande infrastruktur, främjande av en realistisk bild av entreprenörer genom t ex kampanjer och kontaktskapande samt slutligen entreprenörskapsutbildning.

Den starka uthålligheten hos en företags- eller entreprenörskapskultur när den väl etablerats i en region innebär att det finns långsiktiga vinster med att söka etablera en sådan. Att utveckla en kultur kan dock ta mycket lång tid och kräva ett uthålligt och konsekvent policyarbete. En politisk strategi att införa en entreprenörskapskultur bör därför ses som ett långsiktigt byggande av ett slags entreprenöriell kapitalstock. Avkastningen dröjer, men när den väl uppkommer blir den uthållig och ger positiva resultat långt in i framtiden. Som författarna visar kan en genuin entreprenörskapskultur fortleva också under perioder av chocker och prövningar, t o m fyra decennier av en uttalad anti-företagarpolitik och ett förödande krig. Denna motståndskraft innebär i sin tur också att de områden som utvecklat en regional kultur av entreprenörskap bättre kan stå emot negativa förändringar och kriser.

För att stimulera framväxten av regional entreprenörskapskultur behövs åtgärder av många skilda slag. Som ovan nämnts hör ett generellt gott företagarklimat, en regional positiv syn och en stödjande infrastruktur dit. Positiva förebilder lyfts fram liksom kontakter med företagare som utvecklas bl a av regionens universitet och skolor. Inslag som affärsplanetävlingar, seminarier och träffar med entreprenörer kan här spela roll. Undervisning i entreprenörskap bidrar till att ge elever insikter i företagande och kunskap om den egna potentiella förmågan som företagare. Vidare kan bilden av företagare i media spela roll för den sociala acceptansen av entreprenörskap. Att bidra till minskad social stigmatisering av att misslyckas som företagare kan också utgöra ett viktigt inslag i byggandet av en uthållig regional företagskultur.

Slutligen bör policy-åtgärder som syftar till att utveckla den regionala kunskapsbasen och att främja innovationsaktiviteter ingå i den långsiktiga politiken. Dessa kan bidra till att nya företag skapas, vilket i sin tur bidrar till att kunskap omvandlas till kommersiella framgångar och tillväxt. Innovationspolitik och skapandet av en entreprenörskapskultur hänger intimt samman; att stimulera entreprenörskap kan bidra till att den regionala kunskapsekonomin blir mer effektiv.

De normativa mjuka institutionerna och de mer konstitutionella normerna (lagar och regelverk) utvecklas i samverkan och påverkar varandra. Att bygga en politik som utvecklar entreprenörskapskultur kan alltså sägas fungera som en försäkring

och ett förebyggande återhämtningsprogram och borde enligt författarna vara ett högprioriterat policyområde.

Nyföretagande, entreprenörskapskultur och konjunkturcykeln: Det svenska fallet

Martin Andersson konstaterar i kapitel 5 att intresset för regional entreprenörskapskultur har ökat kraftigt. Flera ledande forskare menar till exempel att skillnader i entreprenörskapskultur mellan regioner är av central betydelse för att förstå entreprenörskapets geografi. I en bred mening kan man säga att när forskare skriver om regional kultur och entreprenörskap avser man kollektiva normer och värderingar som påverkar entreprenörskap, till exempel individers benägenhet att testa nya idéer genom nyföretagande.

Andersson visar i sitt kapitel att de regionala skillnaderna i entreprenörskap (mätt som nyföretagande) är betydande, de uppgår till en faktor som överskrider fem. Antalet nya arbetsställen per tiotusen invånare i landets kommuner sträcker sig från omkring 50 till cirka 300. Det finns självklart flera förklaringar till dessa mönster, varav entreprenörskapskultur endast är en av flera. Vilka empiriska samband är det som gjort att forskningen intresserat sig för regional entreprenörskapskultur? I kapitlet redogörs för två sådana samband för Sverige: (i) stabiliteten i regionalt entreprenörskap över tid och (ii) variationen över konjunkturcykler.

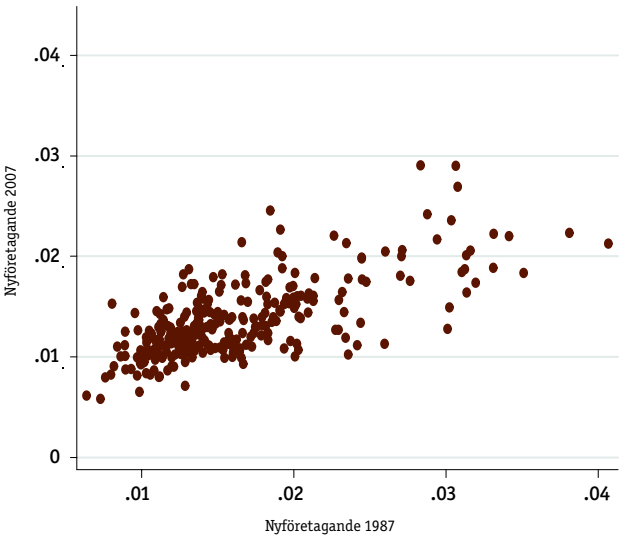
Ett särskiljande drag hos entreprenörskapskultur är att det som begrepp avser faktorer som förändras i mycket långsamma processer. Normer och värderingar ärvs mellan generationer och byggs upp under mycket lång tid. Oliver Williamson – en av världens mest inflytelserika institutionella ekonomer – menar till exempel att den relevanta tidsskalan för informella institutioner (som just värderingar och normer) ofta uppgår till århundraden. Fenomen som i stor utsträckning beror på sådana trögrörliga och oföränderliga faktorer bör då också uppvisa varaktighet över tid. Mot denna bakgrund menar flera forskare att just beständigheten i entreprenörskapets geografi över tid och dess mönster under ekonomiska chocker (som kraftiga konjunktursvängningar) talar för att en regional entreprenörskapskultur är en viktig och ekonomiskt betydelsefull faktor.

Forskning på svenska data ger starkt stöd för detta. För det första visar enkla analyser att beständigheten i nivån på nyföretagandet mellan landets regioner är hög. Till exempel kan nyföretagandet i Sveriges kommuner 1987 förklara över 50 procent av variationen i nyföretagandet två årtionden senare, dvs 2007 (Figur 9). Detta gäller trots att tidsperioden innefattar 1990-talskrisen som innebar en kraftig nedgång, och med ett efterföljande skifte i sysselsättning från tillverkningssektorer mot i huvudsak kunskapsintensiva tjänstebranscher. Effekten av historiskt nyföretagande finns också kvar även om man tar hänsyn till flera andra faktorer som t ex arbetslöshet, utbildningsnivå, industristruktur och marknadsstorlek.

Dessutom finns det starkt stöd för att regional entreprenörskapskultur utvecklas i självförstärkande processer över tid genom entreprenöriellt lärande. Detta innebär att entreprenörskapskultur inte bara är en bidragande faktor till en regions

entreprenörskap, men också delvis en produkt av detsamma. Ett exempel på denna typ av lärande är att entreprenörer kan vara förebilder och källa till inspiration för andra personer som funderar på att starta företag. Argumenten om entreprenöriellt lärande och självförstärkande processer ger vid handen att det är särskilt i regioner med höga historiska nyföretagarnivåer som uppvisar beständighet över tid. I kapitlet redovisas resultat för svenska kommuner som tyder på just detta – kommuner med höga nivåer på nyföretagande uppvisar starkast varaktighet över tid (allt annat lika).

FIGUR 9. Relationen mellan nyföretagande 2007 och 1987 i svenska kommuner (nyetableringar per invånare 16-64 år).



Källa: Figur 2, kap 5.

För det andra visar analyser av entreprenörskapets geografi i Sverige under 1990-talskrisen att krisen i huvudsak påverkade nivån på nyföretagandet på ett generellt plan – inte den geografiska fördelningen. Detta trots att 1990-talskrisen påverkade olika kommuner i olika hög utsträckning. Kapitlets analyser av konjunkturcykler och nyföretagande skiljer på nödvändighets- och möjlighetsbaserat entreprenörskap. Det nödvändighetsbaserade entreprenörskapet ökade kraftigt när krisen slog till och arbetslösheten ökade, men sjönk i takt med att ekonomin återhämtade sig. Det möjlighetsbaserade entreprenörskapet sjönk under krisen men ökade sakta i takt med att ekonomin återhämtade sig. Denna typ av entreprenörskap uppvisar ingen uppgång när arbetslösheten var som högst kring 1994. Det nödvändighetsbaserade entreprenörskapet förefaller också öka under åren precis innan krisen slog till.

Hur påverkades den regionala fördelningen av de olika typerna av nyföretagande? Olika kommuner drabbades olika hårt. Under krisåren 1991-1994 tappade vissa kommuner nästan en fjärdedel av sin sysselsättning medan andra tappade endast ett par procent. Trots detta visar analyserna i kapitlet att den regionala fördelningen inte påverkades nämnvärt under krisen. I kapitlet jämförs fyra tidsperioder: (i) före krisen 1987-1990, (ii) krisåren 1991-1993 (iii) efter krisen 1994-1997 och (iv) aktuellt läge 2004-2007. Oavsett om man tittar på nödvändighets- eller möjlighetsbaserat entreprenörskap är den huvudsakliga bilden att den geografiska fördelningen av nyföretagandet inte påverkades nämnvärt av krisen. I stort behöll Sveriges kommuner sin position i fördelningen under hela krisen. Anderssons slutsats är att dessa analyser ger ytterligare stöd för att regional entreprenörskapskultur är en central faktor för ett beständigt entreprenörskap.

Vad är då slutsatserna för politiken? En första slutsats som kapitlet lyfter fram är att politiken inte på kort sikt kan förändra en regions historia. Historiskt betingade fenomen som en regions entreprenörskapskultur är ärvda och politiken bör beakta och i viss utsträckning också anpassas till olika regionala kontexter. Det senare kräver förstås kunskap om den regionala kontexten. I kapitlet lyfts effekter av stora regionala investeringar som en ny fabrik, infrastruktur och regional högskola fram som exempel. Detta är investeringar som är associerade med lokala multiplikatorer, och antas ofta bidra till så kallade entreprenöriella möjligheter. Till exempel kan en ny regional högskola öka efterfrågan på pubar, kaféer och restauranger och kulturutbud genom ett inflöde av studenter och högskolepersonal. Men för att dessa möjligheter ska realiseras krävs entreprenörskap och entreprenörer.

I regioner med stark entreprenörskapskultur kan benägenheten att realisera möjligheter vara större, med större regionala effekter av investeringen till följd. Poängen med detta exempel är att belysa att diskussioner om policyåtgärder och dess förväntade effekter bör sättas i relation till den regionala kontext och entreprenörskapskultur i vilken åtgärderna utformas och implementeras. I detta sammanhang är en politik som utformas för att passa alla sannolikt ineffektiv.

En ytterligare policyslutsats som presenteras är att entreprenörskapskultur är just historiskt betingat och förändras i långsamma processer, vilket innebär att politiken har begränsade möjligheter att påverka. Policyåtgärder för att stimulera entreprenörskap bör därför vara utformade utifrån långsiktighet och vara inriktade på strukturella faktorer. Detta ger stöd för att även inom entreprenörskapspolitiken tänka utifrån ramverk och helhetssyn, inte minst för att komma åt långsiktighet och strukturella faktorer (se t ex Braunerhjelm m fl 2012). På ett generellt plan lyfter kapitlet också fram behovet av policyåtgärder som kan ge spridningseffekter och initiera den typ av självförstärkande processer som diskuteras i kapitlet. I en regional kontext kan detta handla om åtgärder som att öka inflyttning av entreprenörer t ex genom en effektiv lokal närings- och bostadspolitik, stimulera nyetablering med komplementära åtgärder för att realisera den potential detta ger upphov till, etc. En grundläggande aspekt på att uppmuntra entreprenörskap och driva på mot en entreprenörskapskultur är att främja förebilder och aktivt verka för ökad tolerans och ifrågasättande av vedertagna normer och lösningar.

2

ENTREPRENEURSHIP AND THE BUSINESS CYCLE: EVIDENCE AND IMPLICATIONS FOR POLICY-MAKERS

SIMON C. PARKER

Introduction

It is widely believed that entrepreneurship promotes long-term increases in living standards, via wealth and job creation, innovation and growth (Acs & Audretsch, 1988; Cagetti & de Nardi, 2006; Carree et al, 2002). Yet less is known about the relationship between entrepreneurship and the business cycle, including whether entrepreneurship varies positively or negatively with the business cycle (i.e. whether entrepreneurship is pro- or counter-cyclical); and whether entrepreneurship lags or leads the business cycle (Koellinger & Thurik, 2012). This is unfortunate given that policy-makers want to know whether entrepreneurship can provide a way out of low growth and recession, conditions that many developed countries find themselves in at the end of 2012. At the time of writing, large companies are continuing to downsize their workforces in response to subdued demand for their products; yet at the same time many governments seem to have reached the limits of what they can do with conventional monetary and fiscal policies. Policy-makers therefore want to know whether entrepreneurship provides an effective stimulus which can be turned on during recessions and turned off during booms.

This chapter will present and discuss some evidence relating to this question. Three questions arise when trying to answer it, which bear on the feasibility and desirability of using entrepreneurship policy as an economic stabilization tool:

1. Is entrepreneurship positively or negatively related to the business cycle?
2. Is the co-variation of entrepreneurship with the business cycle contemporaneous or work with a lead or a lag – and if so how long are the leads or lags?
3. Do variations in entrepreneurship cause, or are they caused by, the business cycle – or do both cause each other?

Here, the word "variation" refers to (cyclical) deviations of entrepreneurship or output from its "trend" (or "natural") rate – these terms will be defined more formally below. Answers to the three questions are of interest to policy-makers in their own right. For instance, if the answers reveal that variations in entrepreneurship positively and strongly cause variations in output with a one-year lag, then policymakers may have a case to promote entrepreneurship as a counter-recessionary tool. If, on the other hand, the lag operates over five years or more (which is longer than the typical political cycle) – or if entrepreneurship responds to the business cycle rather than causing it– then the scope for policy intervention may be weaker.

Fortunately, research has provided answers to the three questions above, which I will discuss below. That will enable me to determine whether scope exists in principle for entrepreneurship to act as a timely source of macroeconomic stimulus. Of course, in practice entrepreneurship tends to be the outcome of market forces, and it is far from obvious whether governments can and should intervene with policies to stimulate entrepreneurship. So I will also furnish some discussion, which will of necessity be brief, of the effectiveness of several entrepreneurship promotion policies as well. Perhaps surprisingly, it will turn out that the evidence on this issue seems to be muddier than on the macroeconomic linkage between variations in entrepreneurship and the business cycle.

The macroeconomic linkage between entrepreneurship and output variations is one of two policy-relevant questions addressed in this chapter. The second question asks whether entrepreneurship can reduce high unemployment rates that are commonly observed during recessions. One particular reason why governments look to entrepreneurship in times of recession is linked to the following "Established Facts":

1. Unemployment rates fall during booms and rise during recessions (Neftçi, 1984)
2. New firms create a disproportionate number of jobs, in contrast to large established firms which on average destroy more jobs than they create (Haltiwanger et al, 2009)
3. The unemployed are disproportionately more likely to become entrepreneurs than employees are (Evans & Leighton, 1989)

Taken together, these established facts might suggest that government ought to consider establishing public programs to assist the unemployed in creating new ventures in recessions rather than expecting them to find work in a contracting wage-and-salary labor market. Not only would they create a new job for themselves, the reasoning goes, but also they might grow and create additional jobs for other people. This chapter will discuss evidence on the entrepreneurship-unemployment relationship and will also review the effectiveness of employment assistance schemes designed to transition unemployed workers into self-employment.

Before proceeding any further, it is essential to clarify some terminology. For the most part, "entrepreneurship" in this chapter will be taken to refer to the emergence of new firms rather than the continuation of existing firms (Holtz-Eakin, 2000). However, I will occasionally refer to outcomes involving small firms when that concept is more appropriate. For the most part, entrepreneurship is operationalized empirically in terms of self-employment, reflecting the widespread availability of self-employment data in many countries. Thus, when I refer to the "entrepreneurship rate", I will usually have in mind an empirical measure such as the self-employment rate, which is defined as the ratio of the number of self-employed to the overall labor force.

There are both advantages and disadvantages of using self-employment as a proxy for entrepreneurship. On the one hand, self-employment is an inclusive and convenient measure of entrepreneurship; the self-employed are residual claimants of their own ventures and correspond to the risk-bearing arbitrageur and innovator emphasized in various early writings on the entrepreneur by Frank Knight, Israel Kirzner and Josef Schumpeter (Parker, 2009, Chap. 2.1). On the other hand, self-employment has some well-known limitations as a measure of entrepreneurship, since it over-samples casual "hobby" businesses which are of limited economic value. This measure also under-samples radical path-breaking new ventures. Because the chapter synthesizes and analyzes existing studies, rather than presenting the results of brand new research, these pros and cons will be taken as given; the reader should interpret the results and discussion accordingly.

The remainder of the chapter has the following structure. Section 2 analyzes whether entrepreneurship can be a timely source of macroeconomic stimulus. Evidence on the three sub-questions in the outset of this chapteris reviewed, and conclusions (including policy recommendations) are drawn. Section 3 reviews evidence on whether entrepreneurship can reduce unemployment, and discusses the impact of Employment Assistant Schemes policies in this context. Section 4 concludes.

Could Entrepreneurship be a Timely Source of Macroeconomic Stimulus?

In contrast to the extensive empirical literature in macroeconomics (Cooley, 1995), which has sedulously researched co-movements of aggregate macroeconomic statistics such as output, investment and productivity, less is known about how

entrepreneurship evolves over the business cycle. Nevertheless, over the last few years an evidence base has developed which draws on empirical methods common in macroeconomics by using aggregate time series data to explore whether business cycles affect and/or are affected by entrepreneurship. The imperatives of brevity and accessibility preclude a detailed explanation of empirical research methods in both of these categories; only a brief overview of methods will be given (see e.g. Parker et al, 2012, 2013 for details). Instead, the emphasis will be on the empirical findings and their likely generalizability and robustness.

As a preliminary step to measure a cycle in a macroeconomic data series, a researcher needs to apply a "filter" (e.g. a "Kalman" or "Hodrick-Prescott" filter) to decompose a time series into two component series: a "trend" and a "cycle". The cycle component is commonly viewed as draws from a random variable. (The "cycle" need not have a regular periodicity and so might be better described as "fluctuations"). Likewise, the "trend" need not be a smooth linear function of time, but can be non-linear. Another name for "trend" is "natural rate" (Jaeger & Parkinson, 1994). For instance, the "natural rate of entrepreneurship" is that rate around which the actual observed rate of entrepreneurship is expected to fluctuate randomly at a given point in time (Carree et al, 2002). That is, although random shocks might shift the rate of entrepreneurship away from the natural rate, it is expected to return towards the natural rate eventually. The natural rate may be time-varying.

A key preliminary empirical question is whether economic shocks have temporary, persistent or permanent effects on entrepreneurship. A temporary shock would move the entrepreneurship rate around for a short while before it reverted back to its "natural rate", whereas a persistent shock implies that entrepreneurship would take longer to revert to its natural rate. A permanent shock on the other hand would move entrepreneurship away from its natural rate *without any tendency for it to revert*, and the new entrepreneurship rate would remain there until another (random) shock occurred.

This is an important practical question because the economic and policy implications differ dramatically between these cases. If shocks are persistent, rates of entrepreneurship are more sensitive to the business cycle than if shocks are temporary. In the former case, a corrective policy intervention may be warranted to return entrepreneurship back to its natural rate – especially if entrepreneurship is impacted negatively by the cycle. If shocks are permanent, however, the rate of entrepreneurship can be treated as akin to a "random walk": cyclical shocks dominate and deterministic factors (including policy interventions) have little or no long run impact. A type of "policy neutrality" applies in this case.

Time series data on rates of entrepreneurship can be used to estimate whether shocks have temporary, persistent or permanent effects. To the author's knowledge, Parker et al (2012) is the only systematic and robust analysis of this issue to date. Parker et al analyzed the self-employment rates (the most common proxy for entrepreneurship, as noted above) of 23 OECD countries over the period 1972-2006. Building on earlier work by Congregado et al (2013) but using a superior empirical

methodology, Parker et al (2012) found that shocks to rates of entrepreneurship in developed countries are highly persistent *but not permanent.* Perhaps reassuringly, therefore, governments are not faced with policy neutrality: they can in principle influence rates of entrepreneurship through entrepreneurship-promotion policies. Congregado et al (2013) found similar results for the USA – but not for Spain, where shocks seemed to have permanent effects. This study is methodologically less robust than Parker et al (2012), so perhaps not too much should be read into it, apart from the well-worn warning to policy-makers that policies which work in one country are not guaranteed to work in another.

Having established that shocks are likely to be persistent rather than permanent, I will now examine more deeply into how cyclical variations in output and entrepreneurship are related. That will enable me to address the three questions posed in the Introduction. Several studies have explored the correlations between the cyclical components of entrepreneurship and economic activity. Correlations need not be contemporaneous but can involve lags or leads. Consider the following examples. In the first example, cycles in entrepreneurship two years ago are correlated with cycles in output this year. Then entrepreneurship would be termed a "leading indicator" of the business cycle. As the second example, cycles in entrepreneurship this year are correlated with cycles in output two years ago. Then entrepreneurship would be termed a "lagging indicator" of the business cycle. If these correlations are statistically significant, we can choose to endow such findings with causal meaning too, in the sense of Granger (1969), which is the third question asked. Thus in the first example above, variations in entrepreneurship "cause" business cycles, while in the second example, business cycles "cause" variations in entrepreneurship.

2.1. Correlations Between Entrepreneurship and Economic Activity

Highfield & Smiley (1987) is an early study which explored correlations between the rate of growth of new company incorporations on the one hand, and unemployment and interest rates on the other. While the incorporation of (mainly established) businesses is not a conventional measure of entrepreneurship, the results are interesting nevertheless: Highfield & Smiley (1987) estimated that new firm incorporations are associated with higher unemployment and interest rates in the preceding year and with lower unemployment and interest rates in the following years. One tentative (since we lack further confirmatory evidence) interpretation of these results is that firms incorporate themselves to protect the entrepreneur's assets in times of sluggish economic activity – which may lead to investments which stimulate increased economic activity in later periods.

Applying similar methods of temporal cross-correlations as those used by Highfield & Smiley (1987), a paper by Campbell (1998) shows that the manufacturing plant entry rate in the US covaries positively with output and total factor productivity (TFP) growth, while the exit rate is a leading indicator of all these variables. These findings are consistent with the Schumpeterian notion of "creative destruction", which proposes that entrepreneurs create new firms which displace old ones offering less

attractive, more expensive, or simply obsolete products. The lag structure estimated by Campbell (1998) suggests that a persistent improvement to productive technology first causes old plants to cease production, increasing the plant exit rate. Later, new plants enter which incorporate the latest and most productive technology, causing output and total factor productivity to rise. Caballero and Hammour (1994) refer to this process as the "cleansing effects of recession", since technological improvements introduced via new products in recessionary periods renew the capital stock of firms, cleaning out older obsolete technologies.

A limitation of Campbell's study for our purposes, however, is that many new plants are expansions of existing firms rather than brand new businesses (i.e. entrepreneurs). Hence the Campbell study does not pin down precisely the role of entrepreneurship in the creative destruction process he analyzed. Yet the principle is clear: the creation of new plants is associated positively with productivity and output (i.e. upturns) and follows periods where firms close – which can be associated with downturns.

Summarizing the evidence so far, these two US studies suggest that the answers to the first two questions are as follows: variations in entrepreneurship are positively associated with output and productivity, which may operate with a short lag. However, neither of these studies tests formally for causality, which is our third question. We consider this question next.

2.2. Causality

Parker et al (2013) attempt to answer all three questions in their analysis of British quarterly data on aggregate output, unemployment rates and entrepreneurship rates over 1978-2010. Using a battery of methods and taking account of structural breaks corresponding to different technological and policy regimes over this period, Parker et al (2013) find – like Highfield & Smiley (1987) and Campbell (1998) – that variations in entrepreneurship are positively related to variations in output and negatively related to variations in unemployment: i.e. entrepreneurship peaks in booms when the unemployment rate tends to be at its minimum. Furthermore, these effects were also found to be sizeable in economic terms. This provides additional support for the positive relationship between entrepreneurship and the business cycle discussed in the previous sub-section. Parker et al (2013) estimated lags to be between six months and one year.

On the face of it, the findings of Parker et al that entrepreneurship is at its lowest position in recessions seems to be inconsistent with other evidence, discussed below, that entrepreneurship increases during times of unusually high unemployment. In fact, these findings are not inconsistent with each other once one takes into consideration the dynamics (i.e. causation) inherent in these relationships. To address the causality question, Parker et al (2013) performed Granger (1969) causality tests, and found evidence of significant two-way causality over the period 1993-2010. That is, *variations in self-employment rates both cause and are caused by business cycles*. During a boom, entrepreneurship grows together with the economy in a virtuous

circle until an exogenous shock causes a recession – at which point entrepreneurship declines together with the economy in a vicious circle: employees are laid off and some entrepreneurs go out of business. But in response, these unemployed workers transition into entrepreneurship while others are hired by firms who are able to make profits when wages are low – and the economy grows again in another virtuous circle. So the process continues until the next recession occurs.

Just because self-employment rates affect and are affected by the business cycle does not of course mean that both causal links are equally strong. Using a method called "Forecast error variance decomposition", Parker et al (2013) went on to find that even though entrepreneurship was an important driver of cyclical variations in output and unemployment over the period 1993-2010, its own cycle was even more strongly affected by cyclical variations in output and unemployment.

In other periods (identified using econometric "structural break" tests), Parker et al (2013) found slightly different results. For example, during the cyclical downturns of 1978-1981 and 1988-1993, Parker et al found evidence that negative output variations caused entrepreneurship rates to fall below their trend without any leading effect for entrepreneurship on output. An important point to emerge from this analysis is that different relationships between entrepreneurship and the business cycle may hold in different time periods. This provides a second warning to policy-makers: not only might the estimated relationship between entrepreneurship and business cycle fluctuations vary from country to country, but these relationships might also undergo changes within the same country over time.

The current state of knowledge on entrepreneurship over the business cycle is limited in another important respect as well. Quite simply, the deep economic mechanisms underlying the relationship between variations in entrepreneurship and variations in output are unknown. Creative destruction in response to positive technology shocks might be one mechanism, as in Campbell (1998); but other explanations are also possible. These include a simple labor market clearing story whereby unemployed workers respond to recessions by starting new firms which increases demand in the economy, as noted above (see also Parker, 2012). A third possibility is unrelated to direct productivity or labor market effects, and pertains to access to finance. Small business finance is more readily available in booms than in recessions (Bernanke & Gertler, 1989) which can in itself create more businesses. As in the most recent financial crisis, troubled banks are forced to shrink their balance sheets in an attempt to improve the quality of their loan portfolios. Lending to entrepreneurs is regarded as relatively risky, despite the onerous collateral requirements usually imposed on entrepreneurs; as a consequence, access to entrepreneurial finance declines in recessions at precisely the worst time, i.e. when entrepreneurial wealth is most constrained (Berger & Udell, 1992). Entry rates decline while firm exits increase which further reduces output, deepening the recession; only when banks have rebuilt their balance sheets do they extend lending again, which triggers the upswing. Access to finance and entrepreneurship therefore recover into a boom, at which point private

wealth recovers, making access to finance even easier – so feeding the positive stage of the cycle (Bernanke & Gertler, 1989).

We do not know which, if any, of these underlying mechanisms underpin the causal relationships we have discussed. Evidently more research is urgently needed to learn about these mechanisms and the scope they offer for favorable public policies.

2.3. Policy Lessons

What are the implications for policy makers? Arguably governments can do relatively little to spur technological changes which promote productivity growth by new firms; these are usually treated as exogenous in nature. Indeed, public subsidies directed towards innovation typically entail time lags that are too long, and failure rates that are too high, to be feasible policy instruments (Scherer & Harhoff, 2000). As Scherer & Harhoff (2000) demonstrate empirically, the distribution of the value of innovations is so highly skewed that numerous investment projects have to be undertaken before any significant "winners" are observed. Low success rates from public investment in innovation projects court political controversy and so can be politically unappealing. For these reasons, while I broadly support the role of government intervention in correcting market failures from under-investment in basic research, I do not believe it is an effective or feasible entrepreneurial counter-cyclical policy instrument.

A more promising alternative policy intervention relates to entrepreneurial finance. In many countries, governments work with banks to sustain their lending to small firms in recessions. Methods for doing so include selectively relaxing capital quality requirement rules; launching programs which make finance directly available to entrepreneurs; and initiating or expanding loan guarantee schemes. For instance, the *Financial Times* reported on September 2nd, 2012 that the UK government is currently considering setting up a state-backed small business bank, inspired by similar models in Germany, Ireland and the United States. This policy proposal arises in direct response to collapsing bank lending to small businesses, caused by a flight to safer capital, consolidation of banks' loan books and anticipation of tighter capital rules under the impending Basel III agreement.

Although direct public sector loans do exist in several countries, the most popular entrepreneurial finance intervention in practice is the Loan Guarantee Scheme (LGS). A LGS reduces a bank's risk exposure on an individual loan by having the public sector take on the risk of a fraction of the loan. The largest LGS operates in the United States, whose Small Business Administration had underwritten one-quarter of a million loans worth some $60 billion by 2004 (the latest figures available); other schemes operate in the UK, Germany, France and Canada. Parker (2009, Chap. 16.1) describes LGSs in detail and provides some international evidence about their effectiveness. His overall conclusion is that these schemes can help boost lending to entrepreneurs, but that their economic benefits do not clearly outweigh their costs: hence the evidence "is only mildly supportive" of the effectiveness of LGS programs (2009, 417).

A limitation of Parker's (2009) conclusion – and of previous LGS evaluation studies – is that it takes no account of the asymmetrically greater positive effects of an LGS in

recessions than in booms, when credit is more widely available. The same limitation applies to prior studies of the effectiveness of direct government loans, which have also not distinguished between the desirability and effectiveness of such loans at different points of the economic cycle. Direct loans can come without business advice – as was historically the case with the US Small Business Administration's direct loans – or come bundled with it, as in the case of Sweden's ALMI Företagspartner. Parker (2009, Chap. 16.2) concludes from his discussion of these policies that direct government loans can provide modest amounts of help to some SMEs if they are well targeted. One expects government loans to be especially valuable during credit crunches when banks cut their risk exposure by withdrawing credit even from creditworthy businesses. At times like these, government money is much less likely to crowd out dwindling supplies of private money.

Exactly the same argument can be made in the context of Venture Capital (VC) finance. It is well known that the market supply of private VC is strongly pro-cyclical, owing to the organizational structure of VC funds together with information lags in the venture investment process (Gompers & Lerner, 2002). Gompers & Lerner (2002) argue that, while on average VC can have a powerful impact on entrepreneurship and innovation, its impact declines sharply during booms such as the one of the late 1990s. Gompers & Lerner (2002) go on to criticize US policy-makers for boosting VC-based government programs at times when the private VC market was the most active, duplicating investment in "hot" sectors which the private sector already funds extensively. While they do not claim that policies of this kind were directly responsible for the declining quality of VC investments at the height of the boom, Gompers & Lerner do contend that they "had the consequence of throwing gasoline on the fire: i.e., they have exacerbated the cyclical nature of venture funding" (2002, 3). Instead, these authors argue that policy-makers should focus on technologies which are not currently popular among private investors, and should provide "follow-on capital to firms already funded by venture capitalists during periods when venture inflows are falling" (2002, 25). Lerner (2009) amplifies this recommendation and proposes more details about public policy towards VC in his justly influential book *The Boulevard of Broken Dreams.*

Two important caveats about government policy need to be stated at this point. First, the private sector possesses specialized expertise in evaluating loan applications, arguably more so than public sector agencies. Consequently effective public policies should wherever possible work together with the grain of the market, by utilizing private sector expertise, rather than trying to substitute for it. In this respect, a Loan Guarantee Scheme is often preferable to direct lending; and public sector incentives to attract private sector VCs are often preferable to the creation of public sector VC companies with public sector workers trying to imitate seasoned private sector VCs (Hainz & Hakenes, 2012; Lerner, 2009). Second, grants to start-ups and capital subsidies can have adverse consequences. The former can displace previously viable small firms, while the latter can incentivize entrepreneurs to undertake economically marginal investment projects. For instance, capital subsidies have

been associated with lower total factor productivity growth in the Swedish context (Bergström, 2000).

2.4. Summary

In summary, the macroeconometric evidence suggests that entrepreneurship varies over, and interacts with, the economic cycle in such a way that in principle a role exists for government intervention to promote entrepreneurship during recessions. Hence the emphasis that many politicians have put on entrepreneurship as a driver of growth and recovery is not obviously misplaced. The problem, however, is in the effectiveness of specific policies which can promote entrepreneurship during recessions *in practice.* In my view, the most promising practical public policies are as follows. Government can and should substitute for shrinking private-sector sources of small business lending, especially for existing, profitable businesses whose otherwise sustainable livelihoods and productive services are put at risk by banks refusing to extend lines of credit. Such intervention can take the form of either (or both of) loan guarantees or direct lending; the relative merits of these two policies depend in part on the value-added complementary services which attend them. Such complementary services include the screening of loan applicants by banks under a Loan Guarantee Scheme and the provision of business advice financed by public bodies– there is not yet any convincing evidence for a blanket prescription for one policy over another.

Another economic stabilization policy relates to regional development, including investing public funds to attract large employers to depressed areas. Until recently, it was an open question whether regional development agencies should focus resources on attracting large companies to their regions, or whether they should try instead to promote local small business ownership. This question comes down to whether local business ownership does more to protect local economies against adverse industry and region shocks than large multinationals which locate offices or plants in the area (note: this is a different question to regional development policies in general, which are longer term and more structural in nature). According to Kolko & Neumark (2010), many regional development policy makers apparently believe that local small businesses provide an area with greater resilience to negative macroeconomic shocks such as recessions. Reasons for this include the likelihood that local firms internalize the costs to the community of closure and layoffs, unlike larger non-local firms which pay less heed to these impacts.

Kolko and Neumark (2010) used National Establishment Time Series data covering the entire United States over 1992-2006: they measured local firm ownership using data on metropolitan regions. These authors found that in terms of regional employment levels, the best protection against negative shocks came from multi-establishment corporations who had established their headquarters in the region. The next best protection was afforded by small locally-owned chains, and the least was provided by small independent businesses. In a sense, these findings might not be too surprising: large firms are known to be more stable, having more resources

than small firms with which to weather economic storms. Indeed, larger and older firms enjoy superior survival prospects than smaller and newer firms (Parker, 2009, Chap. 14). But the policy implications are surprisingly clear-cut nonetheless: local business ownership by local entrepreneurs simply does not do much to cushion local economies from negative industry shocks; and a policy of promoting locally-owned single-establishment firms over large corporates may actually make things worse.

Turning from regional policy to labor market policy, governments can also consider investing in labor market interventions which assist entrepreneurs during recessions. The most popular labor market policy is the Employment Assistance Scheme, designed to put unemployed workers back to work to prevent their human capital depreciating through lack of use. Business Advisory Service policies have a potential role to play as well. The next section will discuss both of these policies once the evidence relating to counter-cyclical unemployment rates has been assessed. That evidence comes from both macroeconomic and microeconomic studies.

3. Does Entrepreneurship Reduce Unemployment?

3.1. Macroeconomic Evidence

The previous section discussed evidence of a relationship between cyclical changes in rates of self-employment and unemployment. According to Parker et al (2013), variation in each of these variables caused variations in the other in the UK over 1993-2010. The strongest effects were found to run from variations in unemployment rates to variations in self-employment rates.

A linkage between unemployment and self-employment entry is a long-established research topic. Numerous studies have used time series data to uncover whether aggregate unemployment rates are related to aggregate self-employment rates, at both the regional and the national levels (Parker, 2009, Chap. 4.6.4). Unfortunately, most papers published in this body of work suffer from some serious drawbacks. One problem is that they invariably assume contemporaneous correlations, even though the evidence points to time lags in the relationship between these variables (Parker et al, 2013). Second, prior work rarely explores causality issues. Third, little prior work has disentangled cyclical from trend components, and so has little to say about business cycle fluctuations.

Two recent papers, by Thurik et al (2008) and Koellinger & Thurik (2012), provide valuable, if partial, exceptions to this rule. Both of these papers utilize annual time series data from over 20 OECD countries. Annual data are less well suited than quarterly data for delineating business cycles; nevertheless, these papers are of considerable interest, as they add to the otherwise thin evidence base. Consistent with my argumentation in Section 2.2 above, Thurik et al (2008) and Koellinger & Thurik (2012) find that an increase in the unemployment rate leads to significantly higher rates of entrepreneurship later on, consistent with the so-called “recession push” effect whereby unemployed workers become self-employed, possibly as a last resort.

Then higher rates of entrepreneurship stimulate the economy, which then reduces unemployment rates. Thurik et al (2008) term this "the entrepreneurial effect": it appears to be stronger than the recession push effect. These studies conclude that entrepreneurship and unemployment rates co-evolve over the business cycle, with increases in unemployment boosting entrepreneurship rates, which are then associated with a cyclical upswing that reduces unemployment rates.

3.2. Microeconomic Evidence

A fuller and more detailed picture of unemployment-to-self-employment transitions is available when one looks at data at the individual level. It is now well known from cross-section and individual-level panel regression studies that the unemployed are significantly more likely to become self-employed than employees are. A recent paper by Fairlie (2011) is a good example: using Current Population Survey (CPS) micro-data from 1996-2009 in the US, Fairlie finds that higher unemployment rates in local labor markets have a greater positive impact on entries to self-employment than other variables such as home ownership and local home values for home owners. Furthermore, the unemployed respond more to high local unemployment rates by starting new firms than employees do.

This micro-econometric evidence establishes the "quantity" effect of higher unemployment rates on self-employment rates, which works through local labor markets. As such, it appears to be consistent with the macro-econometric evidence described above. However, there is something of a puzzle in relation to the "quality" of unemployed entrants to self-employment. The unemployed are known to be prone to broken work histories with multiple spells out of full-time employment. Workers with broken job histories are especially likely to try out self-employment (Carrasco, 1999), suggesting that entrepreneurs who enter from unemployment are of low average quality. Several further nuggets of evidence are consistent with this notion. First, unemployed people who become self-employed experience a greater drop in earnings on average than either the unemployed who return to wage work, or employees who enter self-employment (Evans & Leighton, 1989). Second, longer unemployment durations are associated with both low-quality job matches and inferior skill sets, and significantly higher tendencies of individuals to become self-employed (Evans & Leighton, 1989). Third, the formerly unemployed have a worse track record at creating jobs for other people than entrants from paid employment (Cowling et al, 2004; Dencker et al, 2009). As it is, less than 10% of sole proprietors in the US and UK hire any other workers over a three-four year period, and those who do are more likely to be wealthy, well-educated and experienced (Parker, 2009, Chap. 10). This is not the typical profile of an unemployed worker contemplating a transition to self-employment.

If people who enter entrepreneurship from unemployment are of low average quality, and are unlikely to create many new jobs, how can they have a positive impact on the economy in times of recession – as the macroeconomic studies cited in subsection 3.1 suggest? This is especially puzzling as recessions are associated with

low levels of demand and hence restricted opportunities for entrepreneurs to earn profits and survive. Frankly, current research offers few clues for answering this question. The fiscal boost to the exchequer from paying lower unemployment benefits is generally quite modest, ruling this out as a plausible mechanism. Indirect employment creation effects by the newly self-employed are also known to be modest, as noted above. Positive knowledge spillovers from these entrants to other entrepreneurs are unlikely to be substantial either, as the overwhelming majority of new entrants to self-employment do not pioneer new innovations (Shane, 2009).

One tentative explanation is suggested by a finding of Congregado et al (2013) that rates of employer self-employment (i.e. self-employed who employ others) are pro-cyclical in Spain, while rates of own-account self-employment (self-employed who do not employ others) is counter-cyclical. Thus, in recession one can conceive of a movement of unemployed workers into own-account self-employment as well as new sources of paid employment, which gradually boosts aggregate demand. Then more of the self-employed have incentives to start hiring as the upswing gathers pace, becoming employer self-employed. This includes hiring by fast growing "gazelle" firms, which are known to contribute disproportionately to employment, innovation and future growth via knowledge spillovers (Colombo et al, 2010).

This explanation is consistent with the other evidence discussed earlier in this chapter, although it must be acknowledged that it remains no more than a speculative conjecture. More research is needed to dig deeper into exactly how entrepreneurs respond in terms of hiring and output as growth sparks in the post-recessionary growth phase of a modern economy.

3.3. Policy Lessons

Governments around the world are keen to find ways of increasing the number of unemployment-to-self-employment transitions. One way of doing so is to offer the unemployed financial incentives to start their own companies. The most popular policy instrument in this respect is undoubtedly the Employment Assistance Scheme (EAS), which typically furnishes unemployed applicants with combination of start-up grants, an income guarantee and business advice and assistance (Parker, 2009, Chap. 17.2.1). Such programs have been introduced in many countries, including the UK, the US, France, Spain, Germany and Denmark. Government budget limits generally constrain start-up grants to be modest in value, which in turn constrains the scale of the start-ups funded by these programs.

According to an early evaluation of the Employment Assistance Scheme in Britain published by Bendick & Egan (1987), 50% of EAS-sponsored businesses would have started anyway; 50% of those that did start displaced other businesses; about 50% of the assisted firms survived for less than three years; and those that did start created only a fraction of one job in addition to the job of the proprietor. Only one-fifth of surviving firms created any new non-proprietor jobs, while more than 60% of the jobs created in surviving firms after three years under the UK scheme were in 4% of the

businesses originally created (Bendick & Egan, 1987; Storey, 1994). Bendick & Egan concluded:

"The programmes in these countries [France and Britain] have succeeded in turning less than 1% of transfer recipients into entrepreneurs, and an even smaller proportion into successful ones. They cannot be said to have contributed greatly to solving either social or economic problems, let alone both" (1987, 540).

Disappointingly too, the business incomes of UK scheme recipients have been estimated as similar to the incomes they could have obtained in alternative occupations, although it is possible in principle that the experience of entrepreneurship enhances participants' future earnings (Bendick & Egan, 1987). In fact, more recent evidence from Romanian and Argentinian schemes also points to the absence of a lift to subsequent earnings (Rodriguez-Planas & Jacob, 2010; Almeida & Galasso, 2009).

However, more encouraging results have been found in Germany, where EAS participants appear to be self-selected from among the ablest of the unemployed. This is reflected in levels of human capital and rates of business survival and employment growth among scheme recipients which are not significantly different from those of non-recipients. For example, using a "propensity score" matching methodology applied to data for participants and non-participants of two German schemes, Caliendo (2009) found that start-up subsidies to unemployed participants reduced participants' subsequent unemployment rates and increased their incomes relative to non-participants. Akin to the British scheme, German participants did little to create jobs for others, either immediately or in terms of their declared expectations about the future. However, Caliendo & Kritikos (2010) found stronger evidence of positive job creation effects, using a representative sample of over 3 100 start-ups founded by unemployed people in 2003. Caliendo & Kritikos (2010) reported 70% survival rates thirty months after founding, for both men and women participants. Furthermore, over 30% of scheme participants had one employee thirty months later.

To summarize this rather confusing and disparate body of evidence, the effectiveness of EAS schemes seems to depend on the abilities of the participants. This is no less important a point for being rather obvious. German scheme participants are of high average quality, so it is not surprising to find that their enterprises perform better than those of their counterparts in Great Britain, where participants are of low average quality. Governments choosing to design an EAS effectively face a tradeoff between the quality and quantity of entrepreneurship. They can either help relatively few able individuals into entrepreneurship, who enjoy high probabilities of success; or they can help many people become self-employed, who have low probabilities of success. A case can be made for both choices. The first choice is associated with a high financial return per public sector dollar, but does little to help the most marginal unemployed people. The second choice can potentially help a lot of marginal unemployed people, but arguably promises limited long-term economic benefits since their ventures are prone to fail and they are likely to return to a state of unemployment shortly afterwards.

In this respect, it might be worthwhile to consider other public sector schemes for promoting entrepreneurship in recessions. One such example is Business Advisory Schemes , which subsidize agencies to provide information and advice to entrepreneurs, for both new start-ups and established businesses. For example, Sweden's ALMI scheme finances and delivers advisory services for small companies, while Britain's Enterprise Investment scheme (initiated in the 1980s) subsidized 15 days' of private-sector consultant advice per firm to provide entrepreneurs with a "one off" demonstration of the benefits of external advice. This program, like many others of its type, suffered from low-take up rates by entrepreneurs, despite growing evidence that publicly-funded assistance programs have positive effects on venture entry and growth. For example, Parker & Belghitar (2006) estimated that US formal business assistance programs had a significant positive impact on the probability that nascent entrepreneurs actually launched their ventures. And using data on over 3 000 English Small and Medium Enterprises (SMEs), Mole et al (2009) estimated that "intensive" involvement by an SME with a governmental Business Link office was significantly positively associated with growth of that SME over the following two years.

The discussion so far has assumed that Employment Assistance Schemes and Business Advisory Schemes can be used counter-cyclically, to promote entrepreneurship in recessions. However, it is questionable whether these programs are really counter-cyclical in nature. In fact, they tend to be used at all stages of the economic cycle, rather than only in cyclical downturns. In contrast, the credit market intervention policy discussed earlier in this chapter, which advocated the disbursement of public money in recessions to substitute for vanishing private sector sources of funding, does seem to be genuinely counter-cyclical. A public funding policy of this kind should be explicitly temporary in nature, and should be withdrawn to avoid crowding-out problems when private lenders return in better economic times. This is very different from Employment Assistance Schemes and Business Advisory schemes, for which a case can be made at all points of the economic cycle. After all, those schemes help improve the human capital and effectiveness of entrepreneurs, which is presumably desirable regardless of economic conditions.

3.4. Summary

To summarize, the macro evidence has uncovered a two-way causal cyclical relationship between unemployment and entrepreneurship rates, which operates with fairly short time lags. Higher unemployment, which arises during recessions, drives strong inflows into entrepreneurship, while increases in entrepreneurship are eventually associated with lower unemployment rates, possibly because entrepreneurs hire more workers as economic conditions improve. Individual-level studies on labor market transitions confirm the high frequency of unemployed people entering self-employment during recessionary conditions. Many of these entrants appear to be of low quality, moderating the immediate aggregate economic benefit of encouraging the unemployed to enter self-employment, e.g. via employment programs. The effectiveness of these has been called into question in several countries, while neither

program is obviously counter-cyclical in nature. In any event, the role of policy in regard to counter-cyclical unemployment inflows seems to entail a tradeoff between promoting the creation of a lot of new and low average quality businesses on one hand, and promoting the creation of fewer but higher quality businesses on the other. Reflecting limited resources, this tradeoff is probably inescapable, so policy-makers need to be clear about which position on the tradeoff they wish to occupy.

4. Conclusion

This chapter has reviewed and analyzed evidence on the role of entrepreneurship over the business cycle. The evidence has been discussed from the perspective of a policy-maker who is interested in understanding how public policies interface with entrepreneurship in times of recessions and booms. I have abstained from discussing conventional macroeconomic demand-management/monetary policies, which go beyond the scope of this chapter on entrepreneurship. I have also tried to avoid banal "recommendations" along the lines of "entrepreneurship is good for economic growth so governments should try to promote entrepreneurship". (In fact, the quality of the evidence base linking entrepreneurship rates to national economic growth rates is weak at best and downright misleading at worst, since it is prone to all kinds of endogeneity problems and missing variable biases – see Parker (2009, Chap. 11). Instead, I have tried to formulate more specific policy recommendations grounded in a more robust evidence base.

One of the surprising insights I gained while writing this chapter was the realization that we seem to know more about the macroeconomic role of entrepreneurship than we do about the effectiveness of public policies designed to encourage individuals to become entrepreneurs. But the purpose of this chapter was not to provide an exhaustive review of the effectiveness of these policies. Instead, it was to characterize the consensus expert views about a few of the most widely implemented policies. I have tried to reassess those policies in terms of their usefulness in periods of recession. I conclude that policies which provide access to entrepreneurial finance during financial crises and recessions, and which are withdrawn when economic conditions improve, are among the most promising for governments to explore.

Other policies, such as employment assistance schemes (EAS), and business advisory services, can also be useful but are probably more structural (permanent) than cyclical (temporary) instruments. So are entrepreneurship education policies in secondary or tertiary education, which likely take longer to have an impact than the length of a business cycle. Take-up rates of policies do vary over the cycle, of course. Thus, one could expect the take-up of an EAS to increase when a recession strikes: however, policy-makers need to remember that many policies have a "demonstration effect", which makes take-up less counter-cyclical than they might expect. For example, the UK's EAS became increasingly better known as the 1980s wore on. Indeed, it continued to grow in scale well after the country came out of recession shortly after its introduction in the recessionary year of 1982. I conclude that a government operating a scheme needs to be clear about whether they want to promote the quality of

entry into entrepreneurship (low numbers of high quality entrants) or the quantity of entrepreneurship (high numbers of low quality entrants). Each has its own rationale: the former might best promote economic benefits while the latter might generate greater social and political payoffs.

Other policies could in principle be introduced in recessions and withdrawn in booms, but here again one might wonder why a government would not choose to operate them evenly throughout the business cycle. For instance, the Small Business Innovation Research (SBIR) program in the US sets aside a share of contracts of the largest federal R&D agencies to small firms. Evaluations of the SBIR suggest that this program enhances small firm performance (Lerner, 1999). In a broader sense, procurement can be a lifeline for some small firms facing collapsing demand from private sector customers. But in this context a lot depends on whether government expenditures expand during recessions (classic Keynesian stimulus) or are scaled back to tackle excessive budget deficits – as is occurring all over Europe at the time of writing. Decreasing demand from government during recessions could make an SME procurement policy more pro-cyclical than counter-cyclical.

The present recessionary climate in Europe should draw policy-makers' attention to the need not only to encourage more successful start-ups but also to preserve the value embodied in the existing small firms sector. Even though demand is contracting in many economies in the developed world, profitable opportunities remain available in emerging markets; a proper role for government is to work with private enterprise to help it seek out and capitalize on as many of those opportunities as possible.

3

THE RELATIONSHIP BETWEEN DIFFERENT KINDS OF NASCENT ENTREPRENEURSHIP AND THE BUSINESS CYCLE

TIM LAMBALLAIS TESSENSOHN AND ROY THURIK

Entrepreneurship and the Business Cycle – What Do We Know?

The last decades witnessed the rise of entrepreneurship as a powerful force in the world economy.[18] After the early 1980s self-employment rates grew and entrepreneurship became associated with innovative, high-growth, high-tech industries. The emerging knowledge economies were accompanied with both thriving service sectors and a strong emphasis on intangible assets such as intellectual property and human capital. Entrepreneurship creates knowledge spillovers, which would explain its role in high-growth, high-tech industries and justify a central place for entrepreneurship in theoretical frameworks (Audretsch and Thurik 2004). Subsequently entrepreneurship and small businesses have become a research topic and rapidly developed into an important field of enquiry.

18. Thurik (2009) and Wennekers et al (2010). It is not entirely clear whether scholarly work fully justifies the popular claim that entrepreneurship in whatever form always nurtures economic growth (Parker 2009).

The economic crisis has renewed attempts to influence the course of the business cycle using economic policies. Economic policies cannot target business cycles directly but have to rely on intermediary targets such as taxation and unemployment that may influence subsequent economic growth. Entrepreneurship is considered an important growth factor in developed economies and its key advantage among other growth factors is its susceptibility to government policy. Most other growth factors are out of (short term) reach for the policymaker. Strict labor market regulations provide little leverage to combat unemployment or attract new businesses, the introduction of the euro has deprived European central banks of monetary instruments to guide their business cycle and Keynesian investments in infrastructure tend to be too expensive (in particular, excess public spending is difficult during the second part of the current double crisis). Entrepreneurship is one of few factors that are still seen as a vehicle of government interference. Government policies and regulations may effectively create more favorable conditions for entrepreneurs, for instance through tax exemptions, less administrative burdens or subsidies[19].

Additionally, empirical evidence suggests that unemployment and entrepreneurship may be linked by so-called push and pull effects. The push effect occurs if the unemployed start a business due to a lack of other options, in other words a choice induced by necessity. The pull effect implies that in a thriving economy with its growing and differentiating demand for goods and services there are more entrepreneurial opportunities, hence more entrepreneurs who require additional workers to sustain their growing businesses, resulting in less unemployment (Thurik et al 2008). These considerations already allude to the notion that different types of entrepreneurship may interact differently with unemployment and possibly with the business cycle (Faria et al 2009).

The exact nature of the relationship between entrepreneurship and the business cycle still remains unclear. Cross-country differences in definitions of entrepreneurship impede research on entrepreneurship and the business cycle. The harmonized COMPENDIA dataset (van Stel 2005) resolved this issue and enabled new international empirical research such as Koellinger and Thurik (2012). Their article deals with the interplay between entrepreneurship, unemployment and the business cycle. The present paper extends the Koellinger and Thurik (2012) paper with a specific focus on the different kinds of nascent entrepreneurship such as innovative, imitative, opportunity and necessity entrepreneurship. First, it may be nascent entrepreneurship (through new and young initiatives) rather than incumbent entrepreneurship (in existing firms) which interlinks with the business cycle. Business cycle movement may have a significant effect on the entry of entrepreneurial ventures. Second, different kinds of nascent entrepreneurship may vary in the way they influence the business

19. How government policies may stimulate entrepreneurship falls outside the scope of this paper but has been addressed by Audretsch, Grilo and Thurik (2007), Thurik (2009) and many other publications.

cycle or are influenced by it and may require different economic policies. In other words, some kinds of nascent entrepreneurship may anticipate the movements of the business cycle or be useful as indicators of business cycle movements, whereas others may merely lag behind the business cycle. Hence, our research question is which kinds of nascent entrepreneurship are early indicators of the business cycle and whether this differs for booms and recessions.

This paper is structured as follows: section 2 provides a concise review of the literature and section 3 postulates our hypothesis. Section 4 describes the data using graphs to give a general impression of the interplay between nascent entrepreneurship and the business cycle and section 5 analyzes the data in more depth but with the simple tool of (lagged) bivariate correlations between nascent entrepreneurship and the real GDP cycle and the unemployment cycle, respectively. Section 6 discusses the results and Section 7 concludes.

Literature Review

Until recently there was hardly any scholarly attention for the relationships between entrepreneurship and the business cycle. Exceptions are Parker (2011) who presents a series of studies on the involvement of entrepreneurs in the process of economies entering into and emerging from recessions, Parker (2012) who identifies three strands of theories on the interplay between entrepreneurs and their innovation activities on the one hand and the business cycle on the other and Koellinger and Thurik (2012) who report some new empirical regularities between self-employment and the business cycle using averaged national data of 22 OECD countries for the period 1972-2007. They are particularly interested in the lag structure between the two phenomena (Thurik et al 2008 and Parker et al 2012). Below some elements of the above studies are highlighted.

The literature on business cycles has traditionally focused on capital, labor and exogenous technological shocks (Kydland and Prescott 1982). Such technological shocks had already been associated with entrepreneurship by Schumpeter (1934). In his concept of creative destruction, entrepreneurs create innovations and challenge established firms using older technologies. The introduction of innovations seems to follow a wave-like pattern. This observation induced the theory of 'implementation cycles', according to which entrepreneurs would have an incentive to introduce innovations simultaneously (Shleifer 1986, Francois and Lloyd-Ellis 2008). This link between entrepreneurship and the business cycle depends crucially on the perception that technological shocks are the main driver behind the business cycle. This perception has been criticized, as the effects of the technological shocks could be much smaller than initially thought (Eichenbaum 1991). This creative destruction view convinced us to use nascent entrepreneurship in the present paper whereas Koellinger and Thurik (2012) used incumbent entrepreneurship.

Does entrepreneurship increase (pro-cyclicality) or decrease (counter-cyclicality) in times of growth? Some theoretical models suggest pro-cyclicality. In Rampini

(2004) the business cycle endogenously determines the number of entrepreneurs. Self-employment[20] is riskier than regular employment, agents are risk-averse, wealth increase would decrease this aversion, and therefore according to Rampini entrepreneurship is pro-cyclical. He assumes that entrepreneurship yields higher returns than wage employment but this assumption is not confirmed in practice (van Praag and Versloot 2007). However, as unemployment is counter-cyclical, the push effect introduced above would imply high rates of (necessity) entrepreneurship during recessions (Thurik et al 2008 and Thompson 2011). See Parker (2012) for a survey of the asymmetric information effects behind entrepreneurs' actions influencing the business cycle. The importance of push effects convinced us to explicitly discriminate between opportunity and necessity entrepreneurship.

Empirical studies investigating the interaction between self-employment, unemployment and the business cycle are scarce (Parker 2011). The main contribution in this area is Koellinger and Thurik (2012). In their paper, the authors use the COMPENDIA dataset (van Stel 2005) consisting of 22 countries covering the period 1972 to 2007. Their analysis distinguishes between the national level and an aggregate, global level. The aggregate variables are weighted sums of the national variables. The analysis reveals that aggregate, global entrepreneurship is pro-cyclical with regard to the business cycle and Granger causality tests suggest a direction of association from entrepreneurship towards the business cycle. The aggregate business cycle and aggregate unemployment are not able to predict aggregate self-employment. However, at the national level self-employment does not seem to be significantly associated with the business cycle and unemployment appears to affect self-employment. The discrepancy between these results could be caused by country specific shocks or interaction between national business cycles due to trade. Another possibility is that the proportion of different entrepreneurship types may have been stable at an aggregate but not at a national level. Different kinds of entrepreneurship could have a different relationship with the business cycle and where one is pro-cyclical the other may be counter-cyclical, obscuring whether entrepreneurship in general is pro-cyclical or counter-cyclical. The possible importance of different kinds of entrepreneurship and the role of Schumpetarian creative destruction convinced us to discriminate between innovative and imitative entrepreneurship.

Next to their analysis of the business ownership rate, as a proxy for entrepreneurship, for the period 1972 to 2007, Koellinger and Thurik (2012) also investigate how different types of nascent entrepreneurship correlate with (lags of) the business cycle. They discriminate between innovative and imitative entrepreneurship. Their dataset covers the years 2001 to 2006, which is too limited for a thorough analysis. The present paper aims to extend the analysis on the different kinds of entrepreneurship with a larger dataset that covers the years 2001 to 2011.

20. The terms 'entrepreneurship' and 'self-employment' are used interchangeably throughout this chapter.

The results in Koellinger and Thurik (2012) would support the hypothesis that entrepreneurship is pro-cyclical and has some predictive power over the business cycle, at least at an aggregate level. This seems plausible as entrepreneurs commit their livelihoods and substantial time and effort to a prospective business which is prone to failure, especially so during a recession. Engaging in self-employment would therefore be a sign of trust in future economic conditions. Entrepreneurs must judge the business cycle in the long run as months or even years of investment and preparation may pass before sales commence to take off. The development of self-employment rates[21] summarizes the judgments of all potential entrepreneurs as the business cycle progresses. In particular this judgment is concerned with the national business cycle as start-ups generally serve local, regional or national markets rather than an international one.

Hypothesis

The previous section emphasizes the possibility of nascent entrepreneurship rates being pro-cyclical with regard to the business cycle. This means that they grow if the business cycle increases and they fall if the business cycle decreases. A related concept would be so-called "pre-cyclicality": in that case, nascent entrepreneurship rates would grow prior to increases in the business cycle and would fall prior to decreases in the business cycle. Figure 1 illustrates this concept. In this figure, fluctuations in the entrepreneurship rate predate similar fluctuations in the business cycle.[22] The following hypothesis will be at the core of the analysis in this paper:

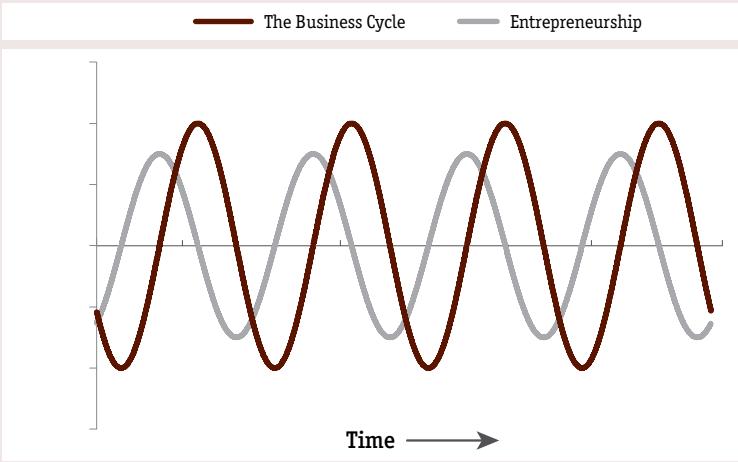
Hypothesis: Entrepreneurship is pre-cyclical. An increase in entrepreneurship rates is associated with a lagged increase in the business cycle and a decrease in entrepreneurship rates with a lagged decrease in the business cycle.

Note that this hypothesis does not necessarily imply causation. As discussed in Koellinger (2008), entrepreneurs may merely foresee and react to the course of the business cycle rather than causing it. Causation is notoriously difficult both to prove and to reject. Parker (2011) provides a survey of articles aimed at the relationship between various aspects of entrepreneurship and the business cycle. This survey shows numerous ways of how entrepreneurship may influence the business cycle but the empirical evidence cannot confirm a causal relationship. The survey of Parker (2012) dives deeper into the theoretical models and empirical evidence. This survey as well shows how complicated the relationship between entrepreneurship and the business cycle inevitably is with its many direct and indirect links. This is why the

21. The number of self-employed in the overall work force.
22. The results in Koellinger and Thurik (2012) suggest that the entrepreneurship rate has smaller deviations from trend than does GDP though this may differ for subcategories of nascent entrepreneurship.

present paper will not attempt to prove the existence of a causal pre-cyclical relationship between entrepreneurship and the business cycle; rather, an attempt will be made to establish whether the hypothesis of pre-cyclicality seems plausible.

FIGURE 1: A SITUATION WHERE ENTREPRENEURSHIP IS PRE-CYCLICAL WITH REGARD TO THE BUSINESS CYCLE



Pre-cyclical entrepreneurship may be caused by the following three mechanisms. First, an upswing of entrepreneurship will lead to higher levels of economic growth caused by any of its positive mediating effects such as introduction of novel products, higher levels of imitative competition, reduction in unemployment, creation of knowledge spillovers, etc (Carree and Thurik 2010). Second, in the booming phase of the economy entrepreneurs become hesitant. There are two possible reasons for this. They intuitively feel that 'what is high must come down' and they put a higher weight on the opportunity costs of entrepreneurship (incumbent firms offer well paid jobs) than on that of the opportunities offered by the boom because of the benevolent labor market. Third, novel entrepreneurship in the recession phase may contribute to productivity shocks because it is the new entrepreneurs who absorb inventions as in the trough the willingness to take risks may be higher. Also, new firms innovate during recessions instead of incumbent firms because the latter face the costs associated with making new production technologies compatible with installed production technologies, whereas the former do not have to deal with incompatibilities; they start from scratch (Koellinger and Thurik 2012).

Nascent Entrepreneurship, Unemployment and the Business Cycle in OECD 2001-2011

In the present paper nascent entrepreneurship is operationalized using the rate of (prospective) business ownership. Data are provided by the Global Entrepreneurship Monitor (GEM) surveys, which show yearly estimates on nascent entrepreneurship and its subcategories such as innovative, imitative, opportunity and necessity nascent entrepreneurship. See Reynolds et al (2005) for a description of the GEM setup. We use data for 22 OECD countries[23] covering the period 2001 to 2011. Harmonized unemployment rates, Gross Domestic Product (GDP) and population data are retrieved from the OECD data sources[24] with real GDP in constant 2005 US dollars. The population data are used to estimate self-employment rates and unemployment rates aggregated over our 22 OECD countries.

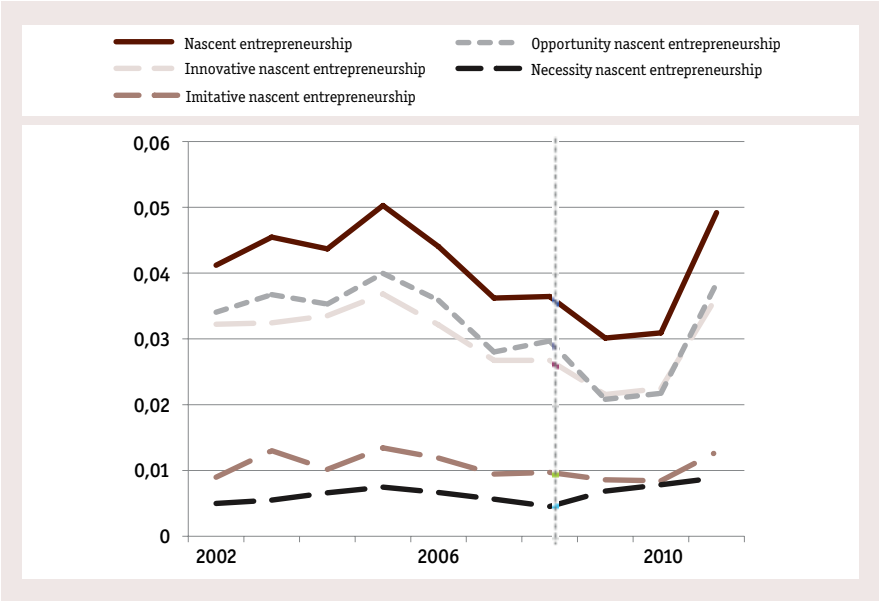
GDP data are de-trended with a standard Hodrick-Prescott filter (Hodrick and Prescott, 1997) to arrive at the GDP deviations from trend.[25] Though only GDP data from 2001 to 2011 are used in the present paper, the filter is applied to GDP data from 1972 to 2011 to create a more precise estimation of the trend component. A deviation from trend is divided by the original data to obtain the percentage deviation from trend. This is our computation of the business cycle. The smoothing parameter in the Hodrick-Prescott filter, λ , equals 100 as is conventional for yearly data. Koellinger and Thurik (2012) also experiment with a value of λ=6.25 as suggested by Ravn and Uhlig (2002). This does not alter their conclusions. In a similar fashion, the results in the following sections have been recalculated for the case λ=6.25 but this did not lead to qualitative different observations and has therefore been omitted from the present report.

Nascent entrepreneurship data are derived from the GEM survey. Not all countries participated every year so the panel is unbalanced. The Global Entrepreneurship Monitor is presently one of the largest international research initiatives for studying entrepreneurial activity. The GEM survey differentiates between nascent, young and established entrepreneurs by means of the duration that wages have been paid. During the 12 months preceding the survey, a nascent entrepreneur is someone who has taken initiative toward starting a new, viable firm. He expects to own at least part of this firm and has not paid wages for more than three months. This paper only considers nascent entrepreneurship and its subcategories while leaving out the young and established ones. In the remaining part of the present paper the term nascent is

23. These countries include Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom and the USA.
24. http://www.oecd.org/
25. The Hodrick-Prescott filter is a standard method of removing trend movements. It has been applied both to actual data and to artificial data in numerous studies. The essential smoothing parameter λ of the filter, which penalizes acceleration in the trend relative to the business cycle component, needs to be specified depending on the data set.

often omitted and the term entrepreneurship is used for nascent entrepreneurship, imitative entrepreneurship for nascent imitative entrepreneurship, etc.
The GEM survey asks entrepreneurs about their start-up motives, whether they started a business because they saw a profitable business opportunity (opportunity entrepreneurship) or because it was the only option for work (necessity entrepreneurship). Furthermore, the GEM survey asks entrepreneurs three questions related to the innovativeness of their firm. The entrepreneur indicates how innovative the involved technology is, how novel the product is in the targeted market and how strong the competition in the market is. Similarly to Koellinger (2008), imitative entrepreneurs are defined as nascent entrepreneurs who do not bring a product or process innovation to their market and who do expect strong competition in this market. Innovative entrepreneurs are those nascent entrepreneurs who do not qualify as imitative entrepreneurs.

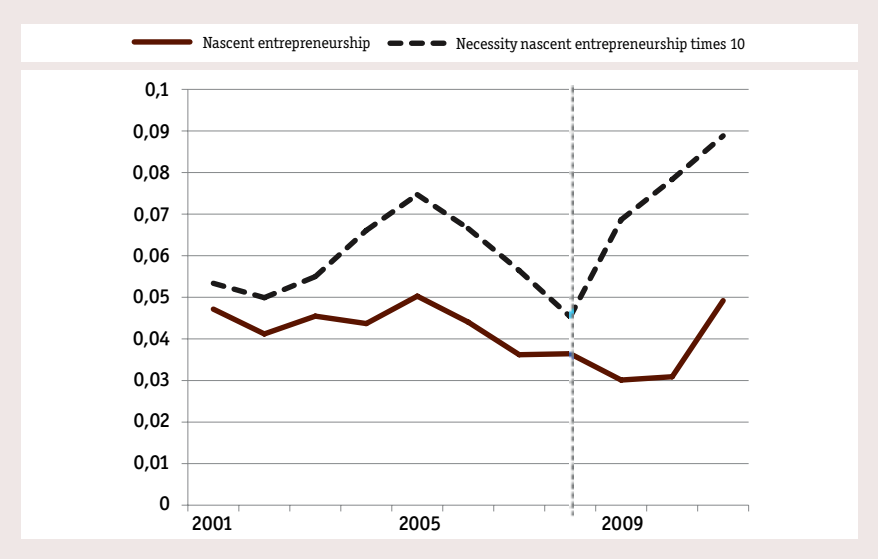
FIGURE 2: ENTREPRENEURSHIP RATES IN TERMS OF WORKFORCE, AGGREGATED OVER 22 COUNTRIES



Figures 2 through 8 show entrepreneurship rates, unemployment rates and the business cycle at the aggregated level over our 22 OECD countries to give an impression of their general movement with regard to each other. Necessity nascent entrepreneurship is multiplied by ten in some of the below figures to accentuate its movement over time; its low number does not go well with the higher number of the other variables on a uniform scale.

Figure 2 shows the five entrepreneurship rates at the aggregated (22 OECD countries) level. Opportunity and innovative entrepreneurship rates are clearly much higher than those of necessity and imitative entrepreneurship. They also move in synch with the overall nascent entrepreneurship rate. The imitative entrepreneurship rate also behaves similarly to the nascent entrepreneurship rate but the peaks and troughs are less pronounced. It is remarkable to observe how similar the movements in nascent, opportunity, innovativeand imitative entrepreneurship are.

FIGURE 3: NASCENT AND NECESSITY ENTREPRENEURSHIP MULTIPLIED BY 10, RATES IN TERMS OF WORKFORCE, AGGREGATED OVER 22 COUNTRIES



They grow towards a peak in 2005 only to decline from 2005 towards 2010. To better demonstrate the evolution of necessity entrepreneurship, figure 3 shows the necessity entrepreneurship rate multiplied by ten and the nascent entrepreneurship rate. Note that until about 2008, the peaks and troughs of necessity entrepreneurship coincide with those of nascent entrepreneurship but that after 2008 their behaviors diverge.

Figures 4 and 5 include the unemployment rate and the measure for the business cycle, GDP percentage deviation from trend. Figures 3, 4 and 5 suggest that necessity entrepreneurship started to really deviate from nascent entrepreneurship at the moment that the business cycle started to plunge in 2008. Figure 5 makes one wonder whether necessity entrepreneurship follows the movements of unemployment with a delay of a year, which would be interesting with regard to the push effect.

FIGURE 4: SELF-EMPLOYMENT, UNEMPLOYMENT AND THE GDP % DEVIATION FROM TREND (BUSINESS CYCLE), AGGREGATED OVER 22 COUNTRIES

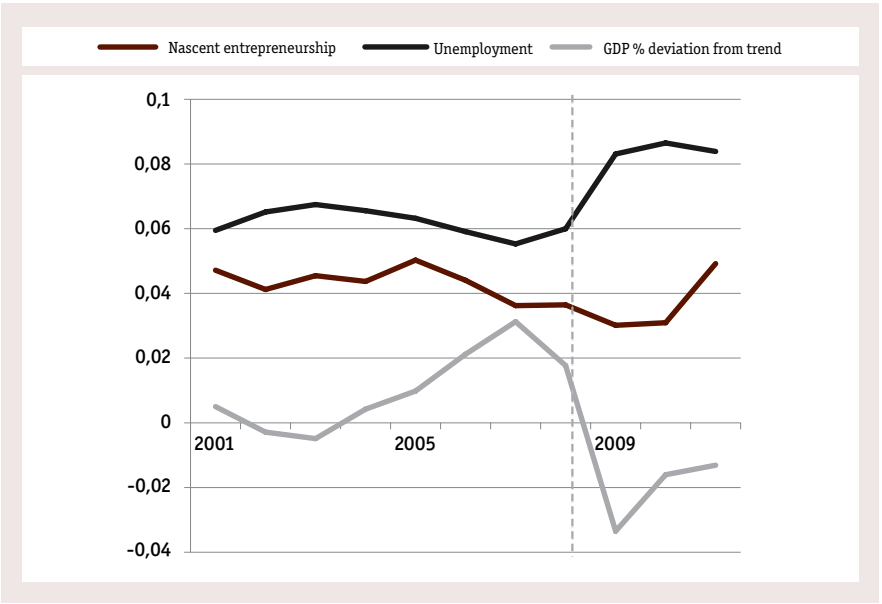
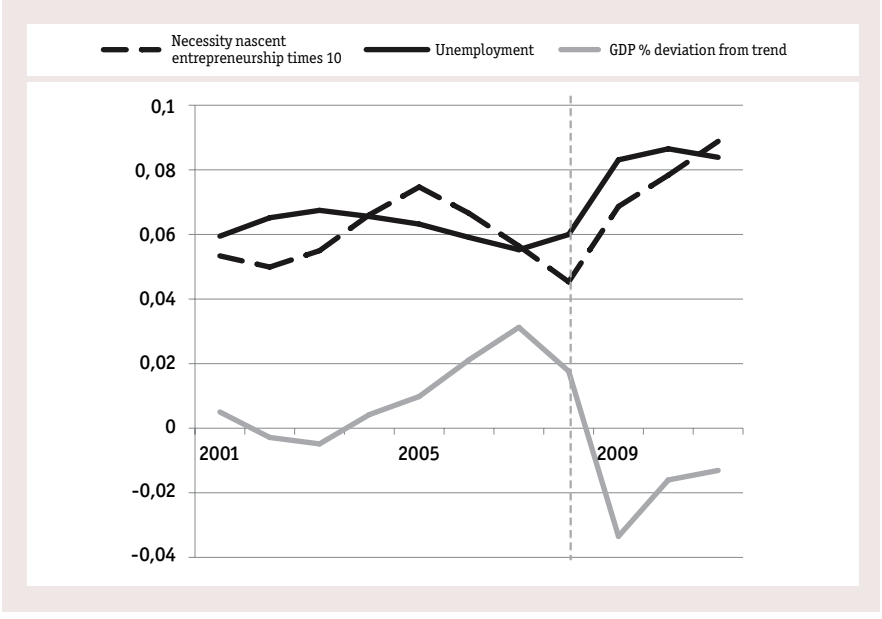


FIGURE 5: NECESSITY ENTREPRENEURSHIP MULTIPLIED BY 10, UNEMPLOYMENT AND THE GDP % DEVIATION FROM TREND (BUSINESS CYCLE), AGGREGATED OVER 22 COUNTRIES



Figures 6 and 7 show innovative, imitative and opportunity nascent entrepreneurship together with the unemployment rate and the business cycle. Similarly to nascent entrepreneurship in figure 4 these three entrepreneurship types seem to move oppositely to unemployment until 2005, follow the movement of unemployment until 2008, most notably the trough in 2007, but seem to move in the opposite direction again from 2008 onwards. With regard to the business cycle the drop in opportunity entrepreneurship after 2005 seems somewhat counterintuitive as one could argue that, if the business cycle increases, there would be more business opportunities and hence more opportunity entrepreneurship. The coinciding drop in the business cycle and opportunity entrepreneurship does support such reasoning.

Nascent entrepreneurship can be divided into innovative and imitative entrepreneurship or divided into opportunity and necessity entrepreneurship. Figure 8 shows how the proportions change over time at the aggregated (22 OECD countries) level. The proportions remain relatively stable. Innovative entrepreneurship contributes with about 75 per cent to nascent entrepreneurship and opportunity entrepreneurship with about 80 per cent except in 2008 and 2009 when necessity entrepreneurship took a larger share than otherwise. This means that at the aggregated level of our 22 OECD countries between 60 and 75 percent of all nascent entrepreneurs can be labelled as innovative, opportunity entrepreneurs.

FIGURE 6: UNEMPLOYMENT, OPPORTUNITY AND NECESSITY NASCENT ENTREPRENEURSHIP, AGGREGATED OVER 22 COUNTRIES

FIGURE 7: GDP % DEVIATION FROM TREND (BUSINESS CYCLE), INNOVATIVE AND IMITATIVE NASCENT ENTREPRENEURSHIP IN TERMS OF WORKFORCE, AGGREGATED OVER 22 COUNTRIES

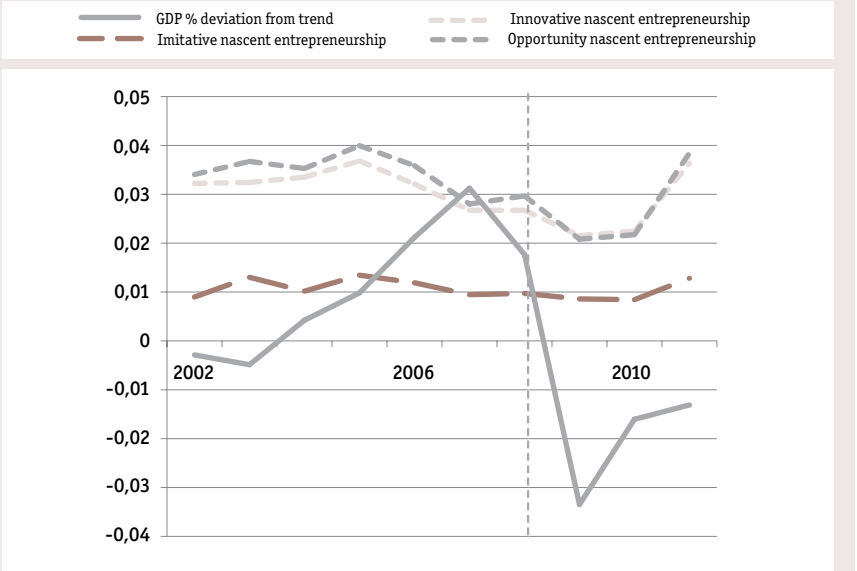


FIGURE 8: THE PROPORTION OF IMITATIVE TO INNOVATIVE AND NECESSITY TO OPPORTUNITY ENTREPRENEURSHIP AGGREGATED OVER 22 COUNTRIES

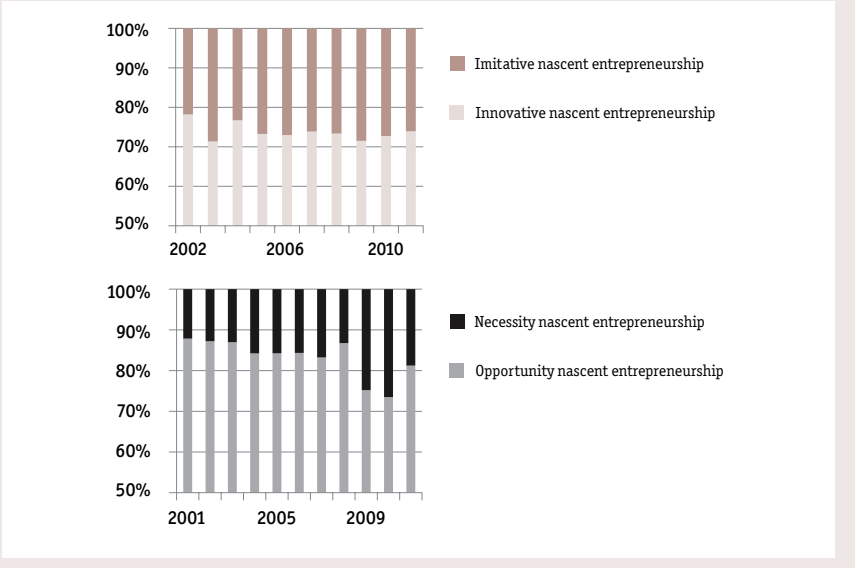


Table 1 shows how the proportions between entrepreneurship types changes at the national level throughout 2001 to 2011. μ_1 is the proportion of nascent entrepreneurs that are innovative averaged over 2001 to 2011 and σ_1 is the corresponding standard deviation. Similarly, μ_2 is the proportion of nascent entrepreneurs who can be labeled as opportunity entrepreneurs, averaged over 2001 to 2011 and σ_2 is the standard deviation.

Table 1: the proportions of entrepreneurship types averaged over 2001 through 2011 where index 1 refers to innovative and index 2 to opportunity

Country	μ_1	σ_1	μ_2	σ_2	Country	μ_1	σ_1	μ_2	σ_2
Australia	0.74	0.05	0.85	0.04	Italy	0.71	0.12	0.84	0.06
Austria	0.77	0.12	0.90	0.01	Japan	0.65	0.12	0.80	0.10
Belgium	0.70	0.08	0.90	0.03	Netherlands	0.71	0.06	0.91	0.03
Canada	0.74	0.06	0.92	0.11	New Zealand	0.79	0.14	0.86	0.02
Denmark	0.80	0.07	0.94	0.03	Norway	0.72	0.09	0.94	0.05
Finland	0.68	0.05	0.86	0.05	Portugal	0.59	0.08	0.77	0.11
France	0.70	0.11	0.77	0.14	Spain	0.64	0.10	0.84	0.07
Germany	0.66	0.06	0.74	0.06	Sweden	0.72	0.08	0.91	0.02
Greece	0.75	0.13	0.76	0.08	Switzerland	0.70	0.04	0.90	0.03
Iceland	0.72	0.05	0.93	0.02	United Kingdom	0.75	0.03	0.86	0.04
Ireland	0.78	0.08	0.82	0.08	United States	0.76	0.02	0.83	0.08
World	0.74	0.02	0.83	0.05	World	0.74	0.02	0.83	0.05

Table 1 shows that, at the national level, σ_1 and σ_2 are often larger than at the aggregated (22 OECD countries) level. This suggests that the proportions change less in the period 2001 through 2011 at the aggregate level than at the national level, especially for the proportion of innovative against imitative entrepreneurship. The table also shows that the fluctuations in the ratio of innovative to imitative entrepreneurs are smaller than the fluctuations in the ratio of opportunity to necessity entrepreneurship. This is in line with the earlier observation that necessity entrepreneurship displays a quite different behavior from the other entrepreneurship types during the crisis.

The most important findings in this section are that the different types of nascent entrepreneurship behave quite similarly to nascent entrepreneurship at the aggregated level of our 22 OECD countries. The exception is necessity entrepreneurship which behaves differently during the crisis. In addition, the proportions between different types of nascent entrepreneurship remain remarkably stable in the period from 2001 through 2011.

Analysis – Is Entrepreneurship Pre-Cyclical?

This section analyzes the data using bivariate correlations and experimenting with lags. As remarked above, the focus is not on trying to characterize the relationship between entrepreneurship and the business cycle or unemployment but on trying to establish whether the hypothesis of pre-cyclicality is plausible. We will discuss the findings of (lagged) bivariate correlations without an a priori assumption of the size

of the lag. The present section considers three periods, 2001 through 2011, 2001 through 2006 and 2007 through 2011. We do so to correct for the influence of the double crisis period starting in 2008; its particularities may hamper a sound view on 'normal' interlinks between entrepreneurship and the business cycle. There are three tables that cover the bivariate correlations between the five entrepreneurship types and the business cycle, one for each of the three periods. Similarly there are three tables for the correlations between the five entrepreneurship types and the unemployment rate. The correlations are between different lags of the variables, for instance the correlation at t–3 in table 2 marks the correlation between an entrepreneurship type at time t–3 and the value of the business cycle at time *t* .

Table 2 shows the bivariate correlations between different kinds of entrepreneurship and the business cycle for 2001 through 2011. Necessity entrepreneurship deviates from the nascent entrepreneurship types both in the magnitude and the sign of the coefficients. The other four seem to follow a particular pattern: at t–2 and t–1 the correlations are significantly positive and at t+2 and t+3 they are negative though not significantly different from zero. The correlations decline in magnitude from t–1 to t+3. This means that nascent, innovative, imitative and opportunity nascent entrepreneurship are correlated with fluctuations of the business cycle one and two years later, supporting the pre-cyclicality hypothesis. At the same time there are also some instances where correlations between the business cycle and entrepreneurship at later dates are significantly different from zero. The business cycle is positively correlated with innovative entrepreneurship one year later, negatively correlated with imitative entrepreneurship two years later and negatively correlated with opportunity entrepreneurship three years later.

Table 3 shows the correlations for 2001 through 2006. The coefficients are similar to those found in Koellinger and Thurik (2012) who consider the same period but using a somewhat different set of countries. The differences arise because Germany has been included and because there is data about the years 2008 and 2009 so the sample sizes for the t–3 and t–2 correlations are larger. The correlations seem to follow the same pattern as in table 2 except that they reach their largest value at t–2 rather than at t–1. Contrary to period 2001 through 2011, the correlations of necessity entrepreneurship in period 2001 through 2006 are in line with the other nascent entrepreneurship types in magnitude and sign. Another phenomenon to note is that the negative correlations of imitative entrepreneurship at t+2 and t+3 are significantly different from zero, whereas they are negative but not significantly so for the other entrepreneurship types. Taken together, these observations imply that table 3 supports the hypothesis that entrepreneurship is pre-cyclical.

Table 4 shows the correlations for 2007 through 2011, the part of dataset that was not available to Koellinger and Thurik (2012) and the years that roughly correspond with the current economic crisis. We will ignore column t–3 because it is calculated on the basis of 33 observations only. This table tells a different story and presents the reason for the discrepancy between the coefficients in table 2 and 3 for necessity entrepreneurship. Nascent, innovative and opportunity entrepreneurship start with

significantly negative correlations at t–2 which climb until t+1, where they again become significantly different from zero though positively so. The business cycle declined in the years 2007 to 2009 and the entrepreneurship rates increased in the years prior to that, from 2004 to 2006, which would explain the negative correlations. The coefficients at t+1 indicate that a decrease in the business cycle is followed, to a certain extent, by a decline in entrepreneurship rates; similarly, an increase in the business cycle would lead to an increase of these three entrepreneurship rates. However, this latter combination is less likely in this depressed period. Imitative entrepreneurship also exhibits this pattern but the coefficients have a lower magnitude and are not significantly deviating from zero.

The tables 2 through 4 show that for the overall nascent, innovative nascent, imitative nascent and opportunity nascent entrepreneurship rates there is a positive, significant correlation with the business cycle fluctuations in subsequent years, except in the period 2007 through 2011. Necessity entrepreneurship is different in that its correlation with the business cycle is relatively low in the periods 2001-2006 and 2001 through 2011 but rather high in the period 2007 through 2011.

Table 2: bivariate correlations entrepreneurship types and the business cycle, 2001-2011

2001-2011	Bivariate correlation of real GDP cycle (year t) with						
lag in years	t-3	t-2	t-1	t	t+1	t+2	t+3
Nascent entr.	0.079 (N=149)	0.153** (N=164)	0.174*** (N=183)	0.114* (N=200)	0.087 (N=200)	-0.025 (N=200)	-0.077 (N=200)
Innovative nascent entr.	0.052 (N=131)	0.122* (N=146)	0.161** (N=165)	0.137** (N=182)	0.126** (N=182)	-0.003 (N=182)	-0.055 (N=182)
Imitative nascent entr.	0.087 (N=131)	0.165** (N=146)	0.191*** (N=165)	0.100* (N=182)	0.035 (N=182)	-0.101* (N=182)	-0.050 (N=182)
Opportunity nascent entr.	0.091 (N=148)	0.174** (N=163)	0.186*** (N=182)	0.122** (N=199)	0.075 (N=199)	-0.048 (N=199)	-0.095* (N=199)
Necessity nascent entr.	0.046 (N=148)	0.065 (N=163)	0.026 (N=182)	-0.067 (N=199)	-0.007 (N=199)	0.030 (N=199)	0.057 (N=199)
* denotes significance at >90%, confidence, ** denotes significance at >95% confidence, *** denotes significance at >99% confidence.							

Table 3: bivariate correlations entrepreneurship types and the business cycle, 2001-2006

2001-2006	Bivariate correlation of real GDP cycle (year t) with						
lag in years	t-3	t-2	t-1	t	t+1	t+2	t+3
Nascent entr.	0.136* (N=116)	0.199** (N=116)	0.165** (N=116)	0.138* (N=116)	0.046 (N=116)	-0.031 (N=116)	-0.102 (N=116)
Innovative nascent entr.	0.131* (N=98)	0.168** (N=98)	0.151* (N=98)	0.192** (N=98)	0.142* (N=98)	-0.003 (N=98)	-0.049 (N=98)
Imitative nascent entr.	0.083 (N=98)	0.227** (N=98)	0.200** (N=98)	0.186** (N=98)	0.006 (N=98)	-0.190** (N=98)	-0.149* (N=98)
Opportunity nascent entr.	0.132* (N=115)	0.200** (N=115)	0.167** (N=115)	0.137* (N=115)	0.036 (N=115)	-0.037 (N=115)	-0.092 (N=115)
Necessity nascent entr.	0.068 (N=115)	0.101 (N=115)	0.122* (N=115)	0.141* (N=115)	0.081 (N=115)	-0.002 (N=115)	-0.095 (N=115)
* denotes significance at >90%, confidence, ** denotes significance at >95% confidence, *** denotes significance at >99% confidence.							

Table 4: bivariate correlations entrepreneurship types and the business cycle, 2007-2011

2007-2011	Bivariate correlation of real GDP cycle (year t) with						
lag in years	t-3	t-2	t-1	t	t+1	t+2	t+3
Nascent entr.	-0.490*** (N=33)	-0.200* (N=48)	0.078 (N=67)	0.101 (N=84)	0.179* (N=84)	0.048 (N=84)	0.101 (N=84)
Innovative nascent entr.	-0.598*** (N=33)	-0.231* (N=48)	0.048 (N=67)	0.108 (N=84)	0.196** (N=84)	0.073 (N=84)	0.087 (N=84)
Imitative nascent entr.	-0.052 (N=33)	-0.055 (N=48)	0.131 (N=67)	0.050 (N=84)	0.078 (N=84)	-0.035 (N=84)	0.105 (N=84)
Opportunity nascent entr.	-0.423*** (N=33)	-0.161 (N=48)	0.083 (N=67)	0.118 (N=84)	0.168* (N=84)	0.014 (N=84)	0.067 (N=84)
Necessity nascent entr.	-0.429*** (N=33)	-0.235* (N=48)	-0.158* (N=67)	-0.233** (N=84)	-0.062 (N=84)	0.073 (N=84)	0.274*** (N=84)
* denotes significance at >90%, confidence, ** denotes significance at >95% confidence, *** denotes significance at >99% confidence.							

The tables show that the correlations for 2007 through 2011 are different from those before the crisis in the period 2001 through 2006, which accounts for the differences between the correlations in periods 2001 through 2006 and 2001 through 2011. Nevertheless, in both periods 2001 through 2006 and 2001 through 2011 the correlation have the same sign and are remarkably similar with regard to the lags for which the correlations are significantly different from zero.

Table 5 shows the bivariate correlations between de-trended unemployment rates and the different entrepreneurship types for the period 2001 through 2011, table 6 for 2001 through 2006 and table 7 for 2007 through 2011. Unemployment has been de-trended with a Hodrick-Prescott filter similarly to the way GDP has been de-trended. These tables show once more that necessity entrepreneurship differs from the other types. Overall nascent, innovative nascent, imitative nascent and opportunity nascent entrepreneurship are negatively correlated with unemployment rates in later years and positively correlated with unemployment rates in earlier years for the periods 2001 through 2006 and 2001 through 2011. In period 2007 through 2011 the correlations generally are not significantly different from zero, except for necessity entrepreneurship at t–3, t and t+3. This explains why the correlations are less often significantly different from zero in table 5 than in table 7. Note that in these tables unemployment has been de-trended, therefore the coefficients show to what extent a fluctuation from trend in the unemployment rate is correlated with the entrepreneurship rates. The entrepreneurship rates could not be de-trended due to the short period for which data is available. Therefore, the negative correlations in tables 5 and 6 at $t-1$ and $t-2$ indicate that increases in the entrepreneurship rates are correlated with unemployment rates below trend one and two years later. Similarly, decreases in entrepreneurship rates are correlated with unemployment above trend one and two years later. The significantly positive correlations at $t+2$ indicate that if unemployment is above its trend then two years later there are higher entrepreneurship rates and if unemployment is below trend then two years later there will be lower entrepreneurship rates.

Table 5: bivariate correlations entrepreneurship types and unemployment, 2001-2011

2001-2011	Bivariate correlation of unemployment (year t) with						
lag in years	t-3	t-2	t-1	t	t+1	t+2	t+3
Nascent entr.	-0.100 (N=149)	-0.133** (N=164)	-0.135** (N=183)	-0.049 (N=200)	0.031 (N=200)	0.117** (N=200)	0.069 (N=200)
Innovative nascent entr.	-0.056 (N=131)	-0.115* (N=146)	-0.156** (N=165)	-0.082 (N=182)	0.018 (N=182)	0.120* (N=182)	0.076 (N=182)
Imitative nascent entr.	-0.145** (N=131)	-0.208*** (N=146)	-0.187*** (N=165)	-0.030 (N=182)	0.063 (N=182)	0.111* (N=182)	0.049 (N=182)
Opportunity nascent entr.	-0.099 (N=148)	-0.146** (N=163)	-0.154** (N=182)	-0.062 (N=199)	0.033 (N=199)	0.128** (N=199)	0.082 (N=199)
Necessity nascent entr.	-0.081 (N=148)	-0.059** (N=163)	0.014 (N=182)	0.098* (N=199)	0.060 (N=199)	-0.013 (N=199)	-0.105* (N=199)

* denotes significance at >90%, confidence, ** denotes significance at >95% confidence, *** denotes significance at >99% confidence.

Table 6: bivariate correlations entrepreneurship types and unemployment, 2001-2006

2001-2006	Bivariate correlation of unemployment (year t) with						
lag in years	t-3	t-2	t-1	t	t+1	t+2	t+3
Nascent entr.	-0.131* (N=116)	-0.163** (N=116)	-0.086 (N=116)	-0.009 (N=116)	0.074 (N=116)	0.154** (N=116)	0.121* (N=116)
Innovative nascent entr.	-0.107 (N=98)	-0.159* (N=98)	-0.138* (N=98)	-0.076 (N=98)	0.061 (N=98)	0.173** (N=98)	0.158* (N=98)
Imitative nascent entr.	-0.110 (N=98)	-0.262*** (N=98)	-0.179** (N=98)	-0.055 (N=98)	0.085 (N=98)	0.158* (N=98)	0.123 (N=98)
Opportunity nascent entr.	-0.105 (N=115)	-0.162** (N=115)	-0.104 (N=115)	-0.013 (N=115)	0.071 (N=115)	0.138* (N=115)	0.106 (N=115)
Necessity nascent entr.	-0.142* (N=115)	-0.087 (N=115)	-0.014 (N=115)	-0.014 (N=115)	0.019 (N=115)	0.078 (N=115)	0.094 (N=115)

* denotes significance at >90%, confidence, ** denotes significance at >95% confidence, *** denotes significance at >99% confidence.

Table 7: bivariate correlations entrepreneurship types and unemployment, 2007-2011

2007-2011	Bivariate correlation of unemployment (year t) with						
lag in years	t-3	t-2	t-1	t	t+1	t+2	t+3
Nascent entr.	0.209 (N=33)	0.111 (N=48)	-0.141 (N=67)	-0.072 (N=84)	-0.002 (N=84)	0.072 (N=84)	-0.045 (N=84)
Innovative nascent entr.	0.340** (N=33)	0.155 (N=48)	-0.114 (N=67)	-0.088 (N=84)	-0.023 (N=84)	0.063 (N=84)	-0.041 (N=84)
Imitative nascent entr.	-0.183 (N=33)	-0.042 (N=48)	-0.171* (N=67)	-0.007 (N=84)	0.053 (N=84)	0.073 (N=84)	-0.041 (N=84)
Opportunity nascent entr.	0.142 (N=33)	0.097 (N=48)	-0.153 (N=67)	-0.093 (N=84)	0.006 (N=84)	0.113 (N=84)	0.002 (N=84)
Necessity nascent entr.	0.436*** (N=33)	0.140 (N=48)	0.087 (N=67)	0.213** (N=84)	0.105 (N=84)	-0.105 (N=84)	-0.349*** (N=84)

* denotes significance at >90%, confidence, ** denotes significance at >95% confidence, *** denotes significance at >99% confidence.

Increased Entrepreneurship and Lower Unemployment – Ideas of the Interplay

The exploration of the different entrepreneurship types shows that innovative, imitative, opportunity and overall nascent entrepreneurship share traits. They move in step with each other at the aggregated (22 OECD countries) level and their correlations at the national level with unemployment and the business cycle are generally of the same magnitude and sign. These correlations support the idea of pre-cyclicality. As indicated in the introduction, entrepreneurs have a reason and a tendency to judge the course of the business cycle in the long run and pre-cyclicality implies that they are able to do so.

Necessity nascent entrepreneurship consistently shows behavior different from the other entrepreneurship types. The sharp drop in the business cycle and rise of unemployment in the crisis coincides with necessity entrepreneurship diverging from the other entrepreneurship types. Push effects are visible after that point so it seems that during the crisis a share of the unemployed opted to start their own firm. Contrary to the other types, necessity entrepreneurship does not appear to be pre-cyclical. This makes sense as necessity entrepreneurs do not start a firm from a position of choice. Rather than judging the course of the business cycle and waiting for the opportune moment, necessity entrepreneurs are likely to start a business soon after losing their job irrespective of the typical cycle phase. Moreover, as unemployment is counter-cyclical, necessity entrepreneurship is unlikely to be pre-cyclical in the first place.

The literature indicates that the interplay with unemployment is important. A rise in entrepreneurship may result in lower subsequent unemployment as new firms hire new personnel. Lower unemployment may in turn exert a positive influence on the business cycle, for example because the previously unemployed start to earn wages and spend more money. This interaction effect where entrepreneurship positively impacts the business cycle by lowering unemployment is not directly accounted for in the correlations between entrepreneurship and the business cycle. The previous section provided support for the existence of pull effects and this would be an indirect way in which entrepreneurship rates have a positive influence on the business cycle. One could also argue that the correlations between entrepreneurship and unemployment are both due to the business cycle (confounding effect of the business cycle). Unemployment is countercyclical and decreases if the business cycle increases. If entrepreneurship is pre-cyclical then its negative correlation with unemployment could be a side-effect of entrepreneurship anticipating the state of the business cycle.

It remains speculative whether the different types of entrepreneurship actually cause fluctuations in the business cycle but if they do then policies targeted specifically at entrepreneurship could be beneficial to the economy as a whole. As discussed above, there are three reasons why nascent entrepreneurship could influence the business cycle. The first is that an upswing in nascent entrepreneurship leads to higher levels of economic growth. This mechanism is supported by the correlations in tables 2 and 3 and is not refuted by anything found in the data. Secondly, in the

booming phase nascent entrepreneurs may become hesitant, which means that nascent entrepreneurship rates decline before the business cycle enters in a declining phase. Both the graphs and the correlations in tables 2 and 3 support this second mechanism. The third mechanism implies that in a recession it is innovative start-ups rather than incumbent firms who innovate and thus produce positive productivity shocks to the economy. Some support for this mechanism is shown in figure 2 where a sharp rise in innovative and opportunity nascent entrepreneurship is shown from 2010 onward, hence in the midst of the current crisis.

If there is a causal relationship where nascent entrepreneurship is responsible for some of the fluctuations in the business cycle, then policies measures nurturing nascent entrepreneurship would have a beneficial influence on both the business cycle and unemployment in subsequent years. During the current crisis with its ban on public spending, policymakers have few options left to exert influence on the business cycle. One of the questions posed in the introduction is whether government policies are able to influence the business cycle by targeting entrepreneurship. This paper shows that entrepreneurship rates predate fluctuations in the business cycle and therefore it is certainly possible that policies aimed at stimulating entrepreneurship can influence the business cycle.

We provide three policy options here. First, Koellinger and Minniti (2009) recently showed that the level of unemployment benefits influences the effect of unemployment on entrepreneurship. Given the results of the present analyses governments should suppress the inclination to support the current ailing economies by increasing employment benefits. Second, the call for more regulation in the wake of the banking crisis should not spillover from the banking to other sectors and increase the administrative burden for other genuinely entrepreneurial sectors. Elsewhere it has been shown that it is the perception of the administrative burden rather than that of the uncertainty about acquiring enough financial capita, which may frustrate entrepreneurial activities (Grilo and Thurik 2008).[26] Third, during the current persisting crisis big and incumbent firms also outside the financial sector will most likely apply for financial and other support in the near future. Governments are well advised to make a sound evaluation of whether to support existing sectors or new ones that may blossom from present nascent entrepreneurial energy. Governments may consider participating in venture capital activities so that the taxpayer benefits twice from a recovery: through an earlier recovery as well as the venture capital gains.

The relationship between entrepreneurship rates and the business cycle may be quite different before and after the crisis, which is something that entrepreneurship policies would have to take into account. Such policies should distinguish between necessity nascent entrepreneurship and other types of nascent entrepreneurship. The three policy options mentioned above are mainly general 'within crisis' nascent entrepreneurship measures.

26. The results of van Stel et al (2007) point in a different direction.

Conclusion

The hypothesis of this chapter is that entrepreneurship is pre-cyclical with regard to the business cycle. Due to the complicated nature of the relationship between the two it is not possible to confirm whether the one has direct causal influence on the other. However, the bivariate correlations of the previous section do support our hypothesis and the existence of pre-cyclicality seems plausible. Necessity entrepreneurship interacts differently with the business cycle when compared to opportunity entrepreneurship. It should be considered as a separate policy target.

This paper confirms the findings of Koellinger and Thurik (2012) that some nascent entrepreneurship types lead the business cycle and that entrepreneurship may be more intimately linked with later states of the business cycle than previously thought.

4

THE ROLE OF A REGIONAL ENTREPRENEURSHIP CULTURE—EVIDENCE AND CONSEQUENCES[27]

MICHAEL FRITSCH AND MICHAEL WYRWICH

1. A Regional Culture of Entrepreneurship

Numerous empirical studies demonstrate that there are pronounced regional-level differences in new business formation and self-employment in many countries (Sternberg, 2009). Studies of established market economies find that such regional differences in entrepreneurship tend to be persistent over periods of one or two decades.[28] Analyzing entrepreneurship in German regions, we find that this impact of regional conditions lasts over a period of 80 years despite dramatic changes in overall economic framework conditions such as World War II, massive migration, and – in East Germany – 40 years of a socialist regime. These findings strongly suggest that a regional entrepreneurship "culture" plays an important role in new business forma-

27. This article is partly based on Fritsch and Wyrwich (2012). We are indebted to Elisabeth Bublitz and to Florian Noseleit for helpful comments on an earlier version.
28. See, for example, the analysis of Andersson and Koster (2011) for Sweden.

tion activity and that the impact of such a culture – once established – tends to be very long-lasting.

This article summarizes the main results of our analysis of self-employment and new business formation in the regions of West and East Germany between 1925 and 2005 (Section 2). Germany is an interesting case for such a study because of the considerable number of disruptive changes the country experienced during this period. We conclude that the pronounced persistence of entrepreneurship that we find might result from a regional "culture" of entrepreneurship. Section 3 discusses what a regional culture of entrepreneurship might involve and how such a culture might persist over time. We derive implications for policy in Section 4.

2. Entrepreneurship in German Regions from 1925–2005

2.1 Shocks and Changes in the Economic Framework Conditions

That regional-level new business formation tends to be persistent over periods of 10–20 years is not really very surprising. An obvious explanation for this persistence could simply be that region-specific determinants of entrepreneurship also remain relatively constant over time or, as stated by the famous economist Alfred Marshall (1920), *natura non facit saltum* (nature does not make jumps). Another explanation could be the existence of a regional entrepreneurship culture, a phenomenon sometimes also called "entrepreneurship capital" (Audretsch and Keilbach, 2004). A regional culture is typically understood "as a positive collective programming of the mind" (Beugelsdijk, 2007, 190), or an "aggregate psychological trait" (Freytag and Thurik, 2007, 123). A pronounced entrepreneurship culture may include the regional population being oriented toward entrepreneurial values such as individualism, independence, and achievement, resulting in social acceptance of entrepreneurs and their activities. As a set of institutions that are mainly informal in character, a culture typically changes only gradually over time and may even survive disruptive changes in economic conditions. Hence, if we find a persistence of new business formation and self-employment in the presence of changing environmental conditions, such can be regarded as a strong indication that a regional culture of entrepreneurship plays a role in the regional level of entrepreneurship.

Germany is a particularly interesting case for studying entrepreneurship over longer time periods because the country has experienced a number of severe disruptions during the last 80 years. These "jumps" in the economic framework conditions include the world economic crisis of 1929, the advent of the Nazi regime in 1933, World War II, occupation by the allied powers, massive in-migration of refugees from former territories, particularly from the East, separation into East and West Germany, reconstruction of the country, and German Reunification. East Germany experienced additional shocks due to its occupation by the Soviet Army at the end of World War II, followed by 40 years of a socialist regime and then transformation to a market economy after German Reunification in 1990, that last of which can be described as a "shock treatment."

In what follows, we first provide an overview of self-employment in Germany in 1925 and start-up activity in 2005 (Section 2.2). Section 2.3 then analyzes how historical self-employment affected the development of new business formation and entrepreneurship between 1925 and 2005 in West Germany. The persistence of self-employment in East German regions, which experienced more severe shocks than their West German counterparts, is investigated in Section 2.4.

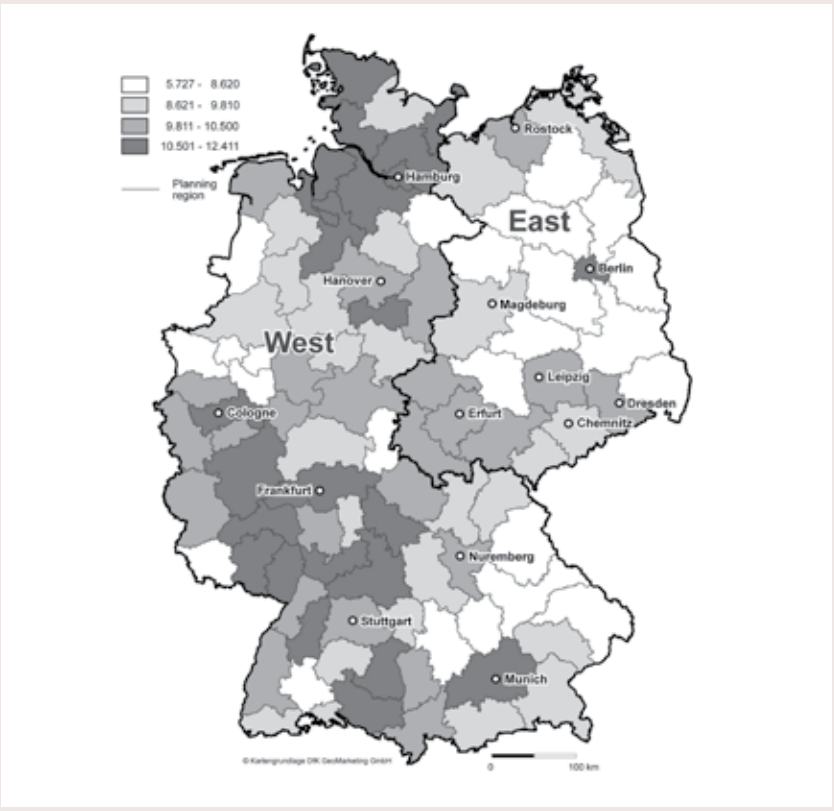
2.2 Entrepreneurship in 1925 and 2005

The historical data that we use provide information about the number of self-employed persons in 1925.[29] Using these data, we calculate the regional self-employment rate as an indicator of the presence of regional entrepreneurship prior to the disruptive events. This rate is defined as the number of self-employed persons in the nonagricultural private sector divided by the overall number of employees, being a proxy for entrepreneurship in the respective region. In particular, it represents the share of entrepreneurial role models within total regional employment. Entrepreneurial role models, that is, examples of self-employed persons, can have a strong influence on decisions to start an own business (Bosma et al., 2012). The share of self-employed persons in the regional workforce can also be regarded an indication of the social acceptance of entrepreneurship in a region and it may also signal the presence of a supportive infrastructure, such as financial resources for start-ups, public support, and the like.

Looking at the distribution of self-employment rates across Germany in 1925 (Figure 1) reveals pronounced differences in the levels of entrepreneurship. A first observation is that, on average, self-employment rates were higher in regions that became West Germany after World War II. Regions with relatively high self-employment rates are mostly found around the urban centers of Hamburg, Frankfurt, Cologne, Munich, and Nuremberg. Also, the southwestern part of Germany, which is known for its innovative spirit and entrepreneurial culture, had high levels of self-employment in 1925. Regions with relatively low self-employment rates in the west of the country include the Ruhr area north of Cologne, which was characterized by a high concentration of large-scale industries such as mining and steel processing, and a number of rural regions in the east and the southeast. Self-employment in East Germany in 1925 was concentrated in the southern regions of Saxony and Thuringia. These areas are known for having a comparatively long industrial and entrepreneurial tradition. Regions adjacent to Berlin had very low self-employment rates. Around 1925, these areas were rather backward in terms of economic capability and were dominated by large-scale agriculture.

29. The historical data are based on a comprehensive survey conducted by the German statistical authorities in 1925 (Statistik des Deutschen Reichs, 1927). Due to changes in administrative regional units, the data had to be adjusted to the current German planning regions. Unfortunately, the data do not contain information about the number of new businesses that were set up in 1925.

FIGURE 1. Share of self-employed persons in nonagricultural sectors in total employment in German regions in 1925.

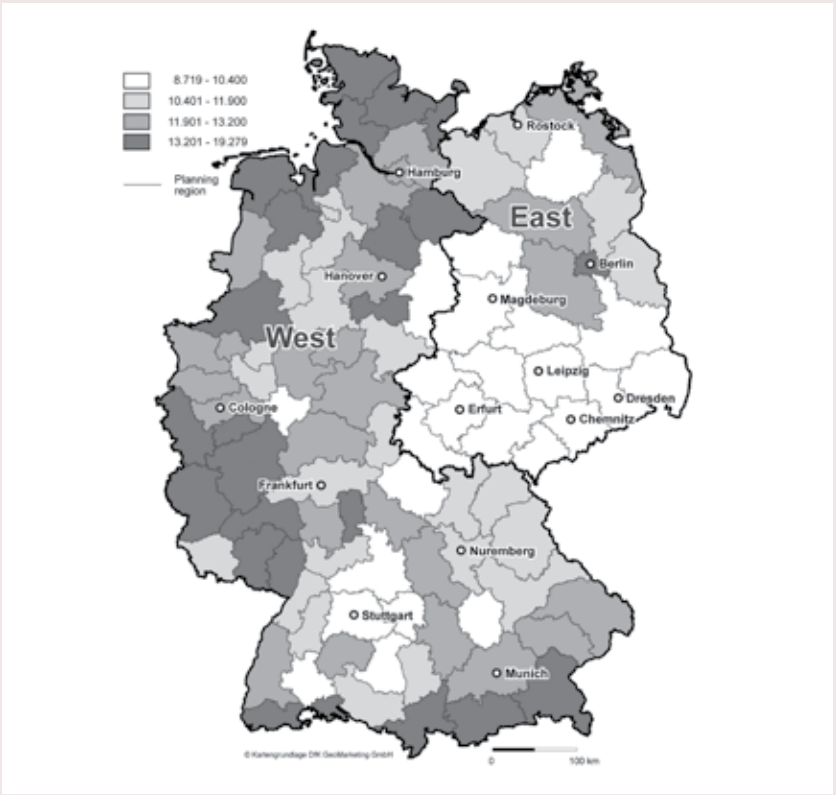


As a measure of entrepreneurship in 2005 we use the start-up rate, which is the number of new businesses in the private sector with at least one employee (who is required to make social insurance contributions) per 1,000 population.[30] The start-up rate reflects the gross inflow to self-employment that occurred in a certain year and is commonly regarded as reflecting entrepreneurial dynamics somewhat better than the self-employment rate. It can be interpreted as the propensity of a member of the regional workforce to set up an own business. We again find great regional differences in the level of entrepreneurial activity across Germany (Figure 2), as was the case

30. These data are from the establishment history panel of the German Employment Statistics (for details, see Fritsch and Brixy, 2004). New businesses are recorded as soon as they hire their first employee who is required to make social insurance contributions. Entrepreneurs without any employees are not included in these data.

for self-employment rates in 1925. Start-up rates tend to be higher in West Germany as compared to East Germany. The on average lower level of start-ups with at least one employee in East Germany probably has to do with problems of transition to a market economy after having been under a socialist regime for 40 years.

FIGURE 2. Start-up rates in German planning regions 2005.



2.3 Persistence of regional entrepreneurship in West Germany 1925–2005

To investigate whether regional self-employment in 1925 continues to influence the level of new business formation in the 1984–2005 period, we run regression analyses, including the self-employment rate in 1925.[31] The regression models show a

31. Although our information on start-ups covers the 1976–2005 period, we can calculate start-up rates only for a shorter time frame because official statistics on regional unemployment, which enter the denominator of the start-up rate, are available only since 1984.

highly significant positive effect of the 1925 regional self-employment rate on the current level of new business formation (see Table A1 in the Appendix). If we control for the regional industry structure in 1925 and include some additional factors commonly used to explain regional levels of new business formation, such as the share of employees working in research and development (R&D) and the regional unemployment rate, the effect of the self-employment level in 1925 remains statistically significant and is sometimes quite pronounced. This means that historical levels of self-employment have an effect that is independent from structural regional conditions and thus provide additional explanation for regional-level new business formation today!

Therefore, we conclude that regional differences in entrepreneurship have persisted for a period of 80 years in spite of several disruptive shocks to environmental conditions. This high level of persistence is particularly remarkable given the high levels of in-migration to West Germany after World War II that led to considerable changes in the population. It is a strong indication that there are region-specific factors at work that are determinative of a regional entrepreneurship culture and induced adjustment to this culture by in-migrants.

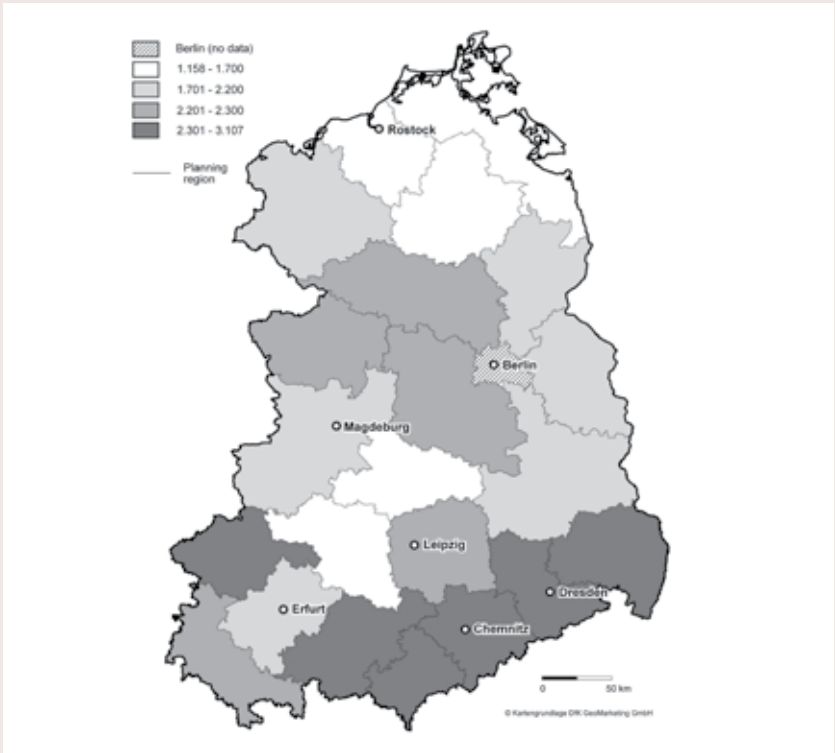
2.4 Persistence of Regional Entrepreneurship in East Germany

After the end of World War II, East and West Germany experienced very divergent developments. The western part of the country became the Federal Republic of Germany and the Western allies soon began to assist in reconstructing its economy, with the eventual result that West Germany became a prosperous market economy. The East was occupied by the Soviet Army, which for some time continued to destroy that region's economic base by dismantling existing machinery and transferring it to the USSR. Moreover, the Soviets quickly installed a socialist regime with a centrally planned economic system. In 1949, the eastern part of Germany became the German Democratic Republic (GDR) and part of the Soviet bloc. As a consequence of political pressure and severe economic problems, there was massive out-migration of East Germans to the West until the East German border was closed in 1961. Throughout the GDR period, a number of policy campaigns were undertaken with the aim of creating new industrial centers, thereby considerably reshaping regional structures. The socialist East German state collapsed in late 1989 and East and West Germany were reunified in 1990.

The consequent transformation of the East German economy to a market economic system was a kind of "shock treatment" during which the ready-made formal institutional framework of West Germany was adopted practically overnight. This development induced massive structural change accompanied by a nearly complete replacement of the incumbent firms. Between 1989 and 1991, the share of manufacturing employment in East Germany dropped from 48.7 percent to 16.0 percent and unemployment rose from virtually zero in 1989 to more than 15 percent in 1992. In the course of the transformation process, many East German regions once again experienced massive out-migration, particularly of young and qualified workers. Even

today, more than 20 years after this transformation process began, nearly all East German regions lag considerably behind their West German counterparts.

FIGURE 3. Self-employment rates in East German regions 1989.



East Germany's 40 years of socialist regime after World War II are of particular interest for our analysis because during this period the region was subjected to a great deal of policy intended to eradicate entrepreneurship. The socialist regime strongly favored collectivist values, whereas entrepreneurship was perceived as a bourgeois anachronism. Hence, a rigorous anti-entrepreneurship strategy was adopted that included massive socialization of private enterprises and the suppression of any remaining private-sector activity (for details, see Pickel, 1992). This strategy was particularly focused on those regions characterized by high levels of self-employment, which were regarded as strongholds of entrepreneurship. As a result, the self-employment rate at the end of the GDR regime in 1989 was only about 1.8 percent compared to 10.5 percent in West Germany. The few private businesses that did exist were

primarily active in those small trades ill-served by inflexible centrally planned state firms.

The longer-term effects of the anti-entrepreneurship policy in the GDR are studied by Alesina and Fuchs-Schuendeln (2007), who find that East German citizens who were exposed to the socialist regime are much more in favor of redistribution and state intervention than are their West German counterparts.

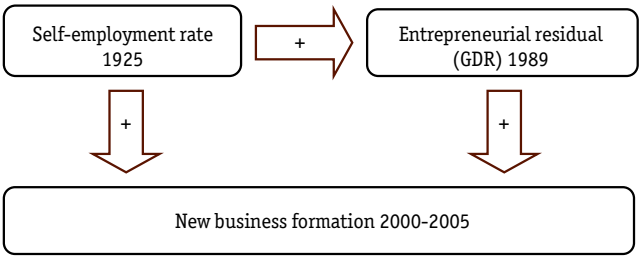
Nevertheless, the socialist regime was not able to stamp out self-employment equally effectively across the GDR, which is evidenced, for example, by the finding that in regions with a pronounced entrepreneurial tradition, higher shares of craftsmen abstained from joining socialist handicraft cooperatives (Wyrwich, 2012). This indicates that the GDR's attempts to battle entrepreneurship were not completely successful particularly in regions with high levels of self-employment. Hence, regional variation in private-sector activity in 1989 can be viewed as a result of variation in private initiative or of different levels of resistance to the abolishment of private enterprise. Indeed, comparing the regional distribution of self-employment in East Germany at the end of the socialist regime in 1989 (Figure 3) with the pattern found for 1925 (Figure 1) reveals remarkable correspondence. In particular, the levels of self-employment after 40 years of socialism were particularly high in those regions that had a pronounced entrepreneurial tradition in pre-socialist times. Many of these regions, such as Chemnitz and Dresden, had a relatively strong tradition in the manufacturing sector prior to World War II. Remarkably, the regions with relatively high levels of self-employment at the end of the socialist period also experienced high start-up rates in the years after German Reunification and were able to manage the enormous problems of transitioning to a market economy comparatively well.[32]

Regression analyses for East Germany reveal a significant positive relationship between the regional level of self-employment in 1925, the level of self-employment in 1989 after 40 years of socialist regime, and the level of self-employment and new business formation in the 2000–2005 period (Figure 4). As was the case in our analysis of West Germany (Section 2.3), this positive effect remains statistically significant even when we control for the regional industry structure in 1925 and include other variables for explaining new business formation, such as the share of R&D personnel, the regional unemployment rate, and population density (see Table A2 in the Appendix). Hence, we conclude that the historical level

32. In some East German regions having a weak entrepreneurial tradition, this relationship is confounded by the many new businesses that have been set up due to unemployment, what is sometimes termed "necessity entreprenuership." Unemployment in the years 2000-2005 was particularly high in regions that had low levels of self-employment in 1925 and 1989. We find a clear and statistically significant positive effect of historical self-employment rates on start-up activity in the 2000-2005 period when controlling for the unemployment rate in multivariate regression analysis (see Table A2).

of self-employment is a separate effect that adds considerably to the explanation of new business formation today.

FIGURE 4. Main findings on persistence of regional entrepreneurship culture.



Our analysis for East Germany again confirms the high persistence of regional entrepreneurship despite a number of severe shocks. That regional entrepreneurship survived the hostile circumstances of a socialist regime suggests that a regional entrepreneurship culture, once established, may be quite robust. In particular, this finding of persistence is evidence that political attempts to destroy a culture of entrepreneurship will face considerably more resistance in regions that have a strong tradition of self-employment. It is also remarkable that the recovery of entrepreneurship in East Germany after reunification with the West was particularly fast in those regions that historically had had relatively high self-employment rates.

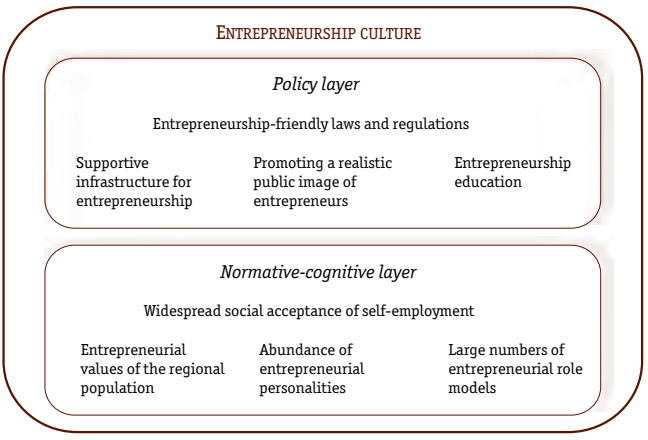
The pronounced persistence of regional entrepreneurship that we find clearly supports the existence of a regional entrepreneurship culture that is an enduring intangible regional asset. This culture is more "in the air" than bound to physical production amenities, as the latter were largely destroyed during World War II and thereafter. Moreover, it is also robust with regard to high levels of in- and out-migration. Due to its resilient character, fostering and sustaining an entrepreneurial culture should be at the top of the agenda of policymakers interested in pursuing long-term-oriented regional development strategies. However, what factors make up such a culture and how and why does such a culture persist? The next section addresses these important issues.

3. What Is a Regional Culture of Entrepreneurship and How Can It Persist Over Time?

3.1 The elements of an entrepreneurship culture

An entrepreneurial culture is typically understood "as a positive collective programming of the mind" (Beugelsdijk, 2007, 190) or an "aggregate psychological trait" (Freytag and Thurik, 2007, 123) in the regional population. Since many of the "ingredients" are not formalized in written rules, the culture is mainly informal in character (a "soft" institution). One may distinguish between the *political* and the *normative-cognitive layer* of a regional entrepreneurship culture (see Figure 5).

FIGURE 5. Elements of an entrepreneurial culture.



The *normative-cognitive* layer of an entrepreneurship culture encompasses:

- *Widespread social acceptance of self-employment:* the population has a positive attitude toward entrepreneurial activity; there is no social stigma attached to entrepreneurial failure.
- *Entrepreneurial values of the regional population:* entrepreneurial norms and values such as individualism, autonomy, and achievement or mastery are widespread.
- *Abundance of entrepreneurial personalities:* the population contains a high share of persons with an entrepreneurial personality, which is characterized by traits such as extraversion, openness to experience, conscientiousness, and the ability to bear risk.
- *Large numbers of entrepreneurial role models who generate demonstration and peer effects:*

high levels of self-employment in the region.

The *policy* layer consists of those factors that can be directly targeted by policy, including, for example:

- *Entrepreneurship-friendly laws and regulations:*
  for example, conditions for entry and exit, freedom of establishment and trade, competition policy, the tax system, the social security system, and, last but not least, a low level of corruption.
- *A supportive infrastructure for entrepreneurship:*
  the existence of supporting services for business founders as well as for established firms, including good access to financial resources for start-ups and small businesses and training and consulting services.
- *Promoting a realistic public image of entrepreneurs:*
  awareness campaigns, programs for encouraging contact with entrepreneurial role models.
- *Entrepreneurship education:*
  particularly at universities but also beginning with some very basic skills at a lower level in the education system.

The policy layer is an important component of an entrepreneurial culture because it contains the instruments that may be able to create and support a regional culture of entrepreneurship. The normative-cognitive layer represents the depth and strength of entrepreneurship culture among the local population. The layers are, of course, interdependent. That is, on the one hand, policy can and does affect the experiences and beliefs of the regional population; on the other hand, the experiences and beliefs of the regional population undoubtedly influence policy design. For example, high levels of new business formation in a region can create high demand for supporting public services such as consulting and training. The persistence of a regional entrepreneurship culture is clearly based in its normative-cognitive layer. The example of the socialist period in East Germany (see Section 2.4) demonstrates that norms and values regarding entrepreneurship can survive even severe policies aimed at eliminating it. Generally speaking, the normative-cognitive layer of regional entrepreneurial culture is a largely informal institution and one of the most characteristic attributes of such institutions is their high level of persistence and tendency to change only very gradually over time (North, 1994).

3.2 The transmission of an entrepreneurship culture over time

One element of an entrepreneurial culture that plays a particularly important role in transmission of the culture over time is the presence of positive examples of entrepreneurs in the social environment. Entrepreneurial role models demonstrate and pass on entrepreneurial skills and may increase social acceptance of an entrepreneurial lifestyle, which increases the likelihood of others adopting entrepreneurial behavior. Empirical research shows that the effects of role models are driven by social interaction and personal contact at the local level rather than by entrepreneurial

icons touted by the media or classroom examples (Bosma et al., 2012). Since people typically start their firm near to where they reside, it is not very likely that such role model effects spill over to other areas. Thus, the presence of entrepreneurial role models in a region can be regarded as a region-specific trigger of entrepreneurship.

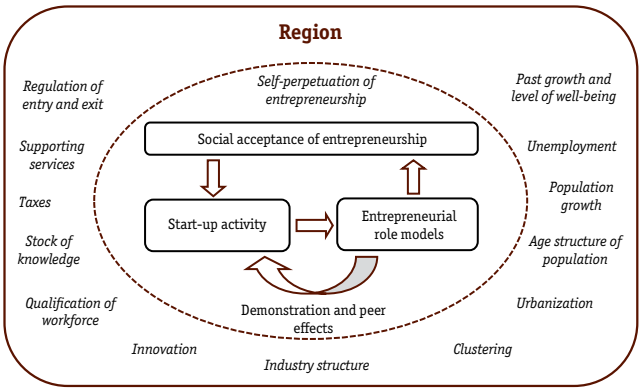
Successful entrepreneurs can give rise to demonstration and peer effects. Entrepreneurs provide opportunities to learn about entrepreneurial tasks and capabilities. In particular, the presence of entrepreneurial role models in the social environment reduces the uncertainty potential entrepreneurs may feel about starting an own business and may help them acquire necessary information and entrepreneurial skills (Minniti, 2005). Seeing the success of others may increase individual self-confidence in the sense of "if they can do it, I can do it, too." This "learning by example" can be viewed as an externality that enables potential entrepreneurs to organize the resources and activities required for starting and running their own venture. This kind of learning tends to be more effective the closer the contact with the entrepreneur. For this reason, the employment share in small and young firms is a good predictor of the effectiveness of entrepreneurial role models because employees in smaller firms have relatively close contact with the entrepreneur. This proximity to the role model provides valuable opportunities to acquire entrepreneurial human capital. Furthermore, employees in small firms usually have to perform a much greater variety of tasks than do their counterparts in larger firms where work tends to be more specialized. Such a variety of skills is conducive to starting an own business (Lazear, 2004). Accordingly, it is a stylized fact of empirical research that, for different reasons, employees in small firms have a higher propensity of starting an own business than large-firm employees.

Peer effects are closely related to the above-discussed demonstration and learning mechanisms. These effects involve the socio-psychological dimension of observing role models. That is, individuals may perceive entrepreneurship as a favorable career option just from observing that one of their peers is a successful entrepreneur (for a detailed exposition of this argument, see Fornahl, 2003). This peer mechanism can be regarded as a precondition for the demonstration effects to become effective because it can create a willingness to learn from entrepreneurial tasks. Entrepreneurial role models are also an important mechanism for the transfer of entrepreneurial skills and attitudes. Empirical research demonstrates a strong effect of intergenerational transmission of entrepreneurial values and behaviors from parents or grandparents to their children. That is, a person has a considerably higher propensity to start an own firm if at least one of his or her parents (or grandparents) has been or is self-employed (e.g., Laspita et al., 2012). Indeed, intergenerational transfer is one of the main factors in the persistence of regional entrepreneurship culture over time.

In addition to direct role model effects, the indirect effect of social acceptance could exert a positive influence on entrepreneurial choice. Hence, in regions where there is a positive attitude toward entrepreneurial activities more people might perceive entrepreneurship as a viable career option and start an own business. Altogether, the interplay of role model effects, start-up activity, and social acceptance

can make a regional entrepreneurship culture – once established – self-perpetuating. Figure 6 provides an overview of the channels of self-perpetuation of regional entrepreneurship that make entrepreneurial culture a crucial regional determinant of entrepreneurial activity along other potential determinants of regional new business formation.

FIGURE 6. Determinants of new business formation and channels of self-perpetuation of regional entrepreneurship.



Another factor that may explain the persistence of a regional culture of entrepreneurship is an infrastructure of supporting services, particularly the availability of competent consulting, entrepreneurial finance, and political support.

Because the main elements of a regional entrepreneurship culture change only gradually over time, as well as due to the self-perpetuating effects mentioned above, regional cultures of entrepreneurship have a pronounced tendency to be long-lasting and thus can be viewed as a type of "capital." Moreover, even if supportive institutional infrastructure for entrepreneurship has been destroyed by rigorous anti-entrepreneurship policy, as was the case in East Germany under its socialist regime, the regional population's positive attitude toward entrepreneurship can continue to prevail for some time.

4. Policy Implications

The high level of persistence of regional entrepreneurship that we find implies long-term benefits once an entrepreneurial culture becomes established. However, the stability of regional levels of self-employment and new business formation detected in empirical studies also strongly suggests that the establishment of an entrepreneurial

culture may require much time and considerable political effort. Hence, policy measures designed to foster the emergence of a regional entrepreneurial culture should be viewed as a long-term investment in a kind of capital stock. Returns on such an investment may be a long time coming, but when they do manifest, they will be long-lasting ones that positively affect regional development far into the future.

Our results suggest that an entrepreneurial culture can persist not only for long periods of time, but can also survive severe shocks, such as four decades of anti-entrepreneurship policy and an utterly devastating war. This resilience of entrepreneurial culture has a further implication, namely, that having an entrepreneurial culture might protect regions from the adverse effects of disruptive change. In this respect, fostering an entrepreneurial culture could be viewed as a sort of insurance policy or as a preemptive recovery program.

We still do not know much about the forces behind the emergence of a strong regional culture of entrepreneurship. In the regions covered by our empirical analysis, such a culture obviously was not consciously created by political action. Maybe the type of agriculture that prevailed in a region, for example, large-scale farming with many employees (northeast Germany) versus small family-run farms (Baden-Wuerttemberg), plays a role. Differences in agriculture practices may be based in socio-political reasons, but they may also have to do with the quality of the soil or with certain social practices, such as the mode of inheritance. If, for example, it has been common practice in a region to divide the land among the beneficiaries in real terms (Realteilung), the resulting small lots could have created an incentive to shift economic activity toward some type of craft business, maybe first as a secondary occupation that later became the main source of income. This is an often-found explanation for the emergence of an economic structure characterized by many relatively small firms in some regions in the south of Germany.

Much of the policy aimed at stimulating a regional culture of entrepreneurship involves creation of a supportive infrastructure for entrepreneurship, political commitment to entrepreneurship, and entrepreneurship-friendly laws and regulations (Figure 5). Since the majority of the relevant laws and regulations apply nationwide, regional-level policy needs to focus on creating a supportive local infrastructure, promoting entrepreneurship and new business formation, and, possibly, local implementation of national laws and regulations. To stimulate the effectiveness of entrepreneurial role models, policy could be designed to enhance the opportunities for personal contact with entrepreneurs. Such policy could include, for example, business plan contests or seminars and presentations at local universities that involve actual entrepreneurs. Another way to encourage the establishment of a regional entrepreneurial culture is to promote entrepreneurial role models in the media as doing so could make entrepreneurship more socially acceptable, especially in areas such as the former East Germany where successful entrepreneurial role models are in short supply. Toward the same end, removing any stigma attached to entrepreneurial failure would also be helpful.

Policy could also promote entrepreneurship education in schools and universities by, first, teaching entrepreneurial skills and, second, providing students with a realistic view of entrepreneurship and helping them accurately assess their own entrepreneurial abilities. A main goal of entrepreneurial education should be that it is those people best suited to the endeavor that choose to be self-employed. Contact with real-world entrepreneurs might be a real "eye-opener" in this regard. Apart from such "soft" campaigns, the policy toolkit should also contain measures aimed at creating a physical infrastructure supportive of entrepreneurship. Finally, policies that aim at developing the regional knowledge base and to promote innovation activities can be supportive by creating entrepreneurial opportunities. There are many empirical examples that demonstrate a key role of new business formation and other kinds of entrepreneurial behavior for transforming of knowledge into commercial application and growth. Hence, innovation policy and the creation of an entrepreneurship culture may be closely interlinked. Stimulating entrepreneurship can particularly contribute to making the regional knowledge economically effective.

Conscious creation of a culture of entrepreneurship is a new policy field and, as yet, not much is known about how to actually accomplish the task. The national institutional framework is no doubt important, but we suspect that more focus on region-specific measures might be even more so. There is considerable room for creative strategies based on knowledge gleaned from successful examples.

Appendix

Table A1: The effect of the self-employment rate 1925 on regional start-up rates in West Germany 1984–2005

	I	II	III
	Start-up rate		
Self-employment rate 1925	0.0286**	0.0619***	0.0362**
	(0.0142)	(0.0148)	(0.0153)
Population density (log) (t-1)	-	-	0.00537
			(0.0224)
Share R&D personnel (t-1)	-	-	0.0608***
			(0.0188)
Unemployment rate (t-1)	-	-	-0.0564***
			(0.0170)
Industry structure 1925	-	***	***
Federal state dummies	***	***	***
Constant	-0.430***	-0.513***	-0.482***
	(0.0590)	(0.0624)	(0.0617)
Number of observations	1,349	1,349	1,349
F-value	209.35***	210.89***	186.20***
$R^{2adj.}$	0.782	0.802	0.806

Notes: Dependent variable: Regional start-up rate in t0. Pooled OLS regressions. Robust standard errors in parentheses. ***: statistically significant at the 1 percent level; ** statistically significant at the 5 percent level; *: statistically significant at the 10 percent level. There are jumps in the number of start-ups for years after 1998, which are controlled for by employing respective year dummies.

Table A2: The effect of self-employment rates in 1925 and 1989 on current levels of new business formation in East Germany in the period 2000 to 2005

	I	II	III	IV
	Start-up rate			
Self-employment rate 1925	0.145**	0.147**	0.260***	-
	(0.0600)	(0.0624)	(0.0856)	
Self-employment rate 1989	-	-	-	0.247**
				(0.0953)
Population density (log) (t-1)	-	-	-0.111	0.134
			(0.111)	(0.104)
Share R&D personnel (t-1)	-	-	0.117	0.0627
			(0.108)	(0.100)
Unemployment rate (t-1)	-	-	0.134**	0.107**
			(0.0590)	(0.0537)
Industry structure 1925	-	***	***	***
Federal state dummies	***	***	***	***
Constant	-0.652***	-0.712***	-0.844***	-0.764***
	(0.100)	(0.148)	(0.174)	(0.199)
F-value	9.44***	9.00***	7.47***	6.67***
Number of observations	110	110	110	110
$R^{2adj.}$	0.341	0.404	0.444	0.420

Notes: Dependent variable: Regional start-up rate in t0. Pooled OLS regressions. Robust standard errors in parentheses. ***: statistically significant at the 1 percent level; ** statistically significant at the 5 percent level; *: statistically significant at the 10 percent level.

5

START-UP RATES, ENTREPRENEURSHIP CULTURE AND THE BUSINESS CYCLE

- Swedish patterns from national and regional data

MARTIN ANDERSSON

Introduction

In her well-known book comparing California's Silicon Valley and the Route 128 corridor outside of Boston, Anna Lee Saxenian analyzes why the two regions embarked on such different development paths. While both regions had a historically strong concentration of knowledge- and technology-intensive sectors and bright prospects for a resilient economic development, Silicon Valley continued to flourish whereas Route 128 declined after the crisis period in the mid-1980s. Saxenian maintains that one important explanation for the divergent performance of the regions is rooted in differences in regional entrepreneurship culture. The following statement from an entrepreneur with experience from both regions that she quotes in her book may serve as a case in point (Saxenian 1994, p 63):

> *"In Boston, if I said I was starting a company, people would look at me and say: 'Are you sure you want to take the risk? You are so well established. Why would you give up a good job as vice president at a big company?' In California, I became a folk hero when I decided to start a company. It wasn't just my colleagues. My insurance man, my water deliverer – everyone was excited. It's a different culture out here."*

A Swedish example of such kind of locally embedded entrepreneurship culture is the so-called 'Gnosjö-spirit'. This spirit is widely recognized in Sweden and is even listed in the Swedish National Encyclopedia. It is described as follows therein (author's translation):

> *"The Gnosjö spirit refers to the enterprising culture that prevails in the municipality of Gnosjö and its neighbors in the county of Småland. In this region, self-employment is a way of life that dominates the local community, which for instance implies that the local authorities, banks, and trade unions conform their way of working to the way the enterprises work."*

Examples along these lines illuminate the quite common argument that there are locally embedded values and attitudes towards entrepreneurship, exerting a strong influence on the rate and level of entrepreneurial activity in regions. The concept of regional entrepreneurship culture aims to capture such phenomenon, and refers in a general sense to the level of social acceptance and encouragement of entrepreneurs and their activities in a region.[33]

In this chapter, I discuss regional entrepreneurship culture as a source of persistent differences in regional rates of new firm formation, and present a number of empirical regularities for Sweden to illustrate the empirical relevance of the main arguments. The presentation touches ground with the other contributions in this report in that I demonstrate the association between start-up activity and the business cycle as well as how the persistence in regional start-up rates is affected by a major economic crisis for the case of Sweden. [34]

The chapter is organized as follows: in Section 2, I provide a brief background to the interest in regional entrepreneurship culture and discuss defining characteristics of culture (in particular its persistence over time). I also assess the empirical relevance of the concept in a Swedish context using data on regional start-up rates in Sweden. Section 3 presents the main patterns as regards new firm formation rates in Sweden over time. A main focus is here on how start-up rates varied during the large recession in Sweden in the early 1990s. In the fourth section, I focus on regional variations in start-up rates in Sweden during the crisis period and link this to the discussion of an entrepreneurship culture. Section 5 concludes and presents lessons for policy.

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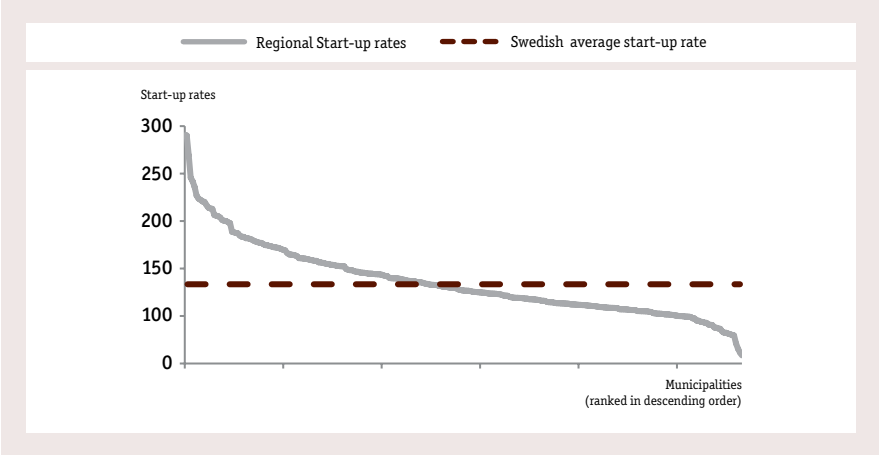
33. There are many different concepts in the literature that generally refer to an entrepreneurship culture (Beugelsdijk 2007). Audretsch and Keilbach (2004), for instance, introduce the concept of entrepreneurship capital. Westlund and Bolton (2003) discuss local social capital as a driver of entrepreneurship. I use the concept of entrepreneurship culture to refer to the general level of social acceptance and encouragement of entrepreneurs and their activities.
34. Part of the chapter draws on previous own work, in particular by Andersson and Koster (2011).

Regional Variation in Start-Up Rates and Entrepreneurship Cultures

Regional Heterogeneity in Start-Up Rates

While the idea of regional entrepreneurship culture is not new (Hoselitz 1957, Johannison 1984, Davidsson and Wiklund 1997), the interest in this phenomenon has increased in recent years. One reason for this is a large and growing literature documenting substantial variations in rates of new firm formation across regions, despite the regions being embedded in the same national institutional environment (Audretsch and Fritsch 1994, Armington and Acs 2002, Bosma et al 2008). Within Sweden, for instance, the cross-regional variations in start-up rates amount to well over factor 5.[35]

FIGURE 1. The variation in start-up rates across municipalities in Sweden 2007 (per 10,000 inhabitant 16-64 years of age).



This is illustrated in Figure 1 in which Swedish municipalities are ranked in descending order according to their start-up rate in 2007. The solid line shows that the number of new establishments per 10,000 inhabitants (16-64 years of age) in Swedish municipalities ranges from nearly 300 to just over 50. As indicated by the horizontal dashed line, the Swedish average amount to about 130 new establishments per inhabitant.

The existence of regional entrepreneurship cultures is one theoretically plausible explanation for these spatial variations in entrepreneurship activity. But there are of course various reasons for regional variations in start-up rates – entrepreneurship culture is just one out of several possible explanations. Moreover, a general issue

35. Start-up rates are here measured as the number of new establishments normalized by the regional population in the age interval 16-64.

with concepts like conventions, informal rules, values and attitudes is that they are hard to measure.

Glaeser (2007) presents three different theoretical perspectives, in addition to regional entrepreneurship culture, may explain why regions differ in entrepreneurial activity:

- *Supply of entrepreneurs:* Individuals may be more or less entrepreneurial due to factors such as age, education, social background or choice of industry. If more 'entrepreneurial' individuals sort themselves systematically towards certain regions and sectors, we will observe sharp regional differences in the supply of entrepreneurs and consequently differences in regional start-up rates.

- *Inputs for new firms:* Regions may differ in terms of availability of inputs, such as venture capital, decentralized input suppliers and supply of labor with various specializations and experiences.

- *Customers:* A large and growing local demand may stimulate new firm formation. This may in particular be important for start-ups in services sectors for which local demand is important. Another argument is that density of customers in a region may stimulate interaction between suppliers and customers, which in turn may foster ideas for new ventures.

But even after controlling for the kind of observable supply- and demand-side regional characteristics listed above, one typically find that significant regional differences remain. Such unexplained (or 'residual') regional variations in start-up rates across regions may in principle be attributed to entrepreneurship culture.

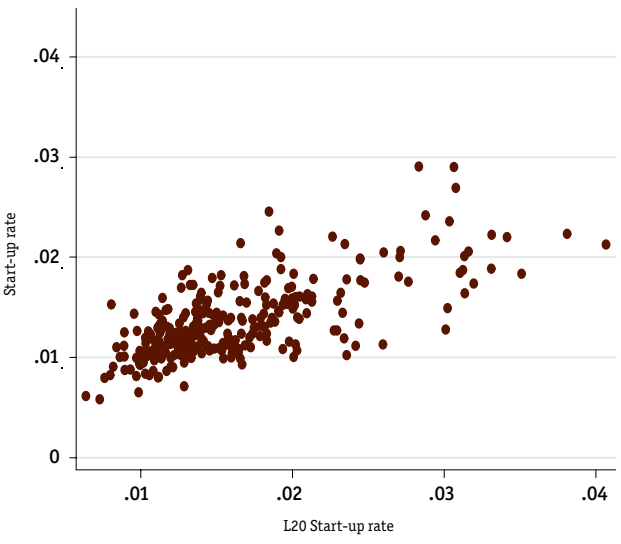
Persistence, Time Scales of Change and Regional Entrepreneurship Culture

The strongest empirical support for entrepreneurship culture is however not regional variations in start-up rates per se. It is instead that longitudinal analyses reveal a high persistency in these variations over time (see e.g. the chapter by Fritsch and Wyrwich in this report).

Figure 2 presents the relationship between the start-up rate 2007 and in 1987 across Swedish municipalities, i.e. a time span of two decades. It is clearly the case that there is persistence in the geography of start-up rates. The main pattern is that municipalities with high start-up rates today are typically those that had high start-up rates two decades ago. Indeed, a simple linear estimation of the relationship in Figure 2 shows that the start-up rate 20 years ago (*L20.Start_up_rate)* is capable of accounting for about 50% of the variance in start-up rates across municipalities today *(Start_up_rate*).

This pattern is not simply an artifact of that the three sets of determinants discussed previously do not change much over time. The influence of previous start-up rates is robust when controlling for other factors that may influence start-up rates. In Andersson and Koster (2011), we employ Swedish data and estimate a dynamic panel model including three lags of the start-up rate, while controlling for observable regional supply- and demand-side characteristics as well as unobserved regional heterogeneity.[36]

FIGURE 2. The relationship between start-up rates in 2007 (Start_up_rate) and in 1987 (L20.Start_up_rate) across Swedish municipalities (new establishments per inhabitant 16-64 years of age).



We find that the lagged start-up rates are statistically significant, illustrating that previous start-up activities do have an effect on current start-up activity in a municipality after controlling for other determinants of start-ups. The results also confirm the role of supply- and demand-side characteristics in explaining start-ups. We find that the general education level of employees, market-size and the share of services in the local industry contribute to a municipality's start-up rate. The estimated

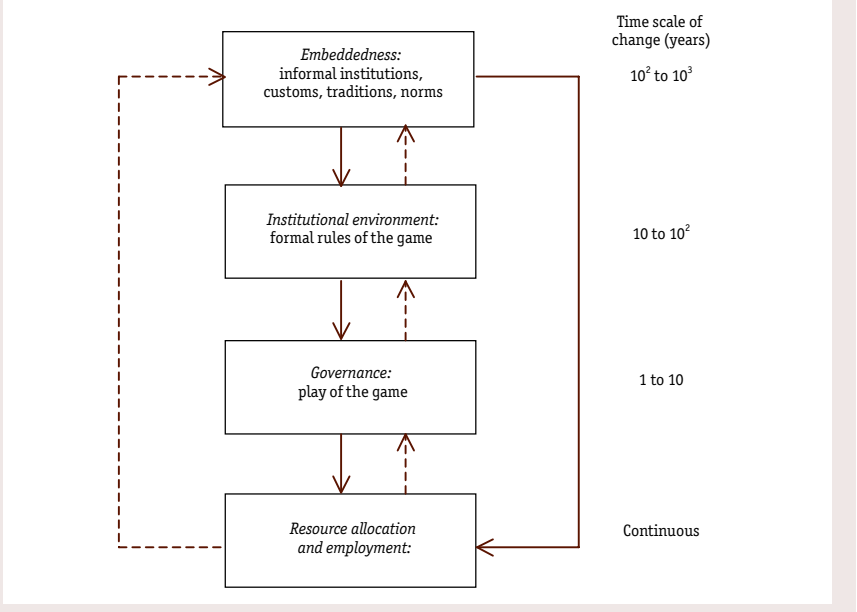
36. Observable supply- and demand-side regional characteristics include education level of employees, industry structure, market size, and income level as well as employment rate. The results from this estimation are re-produced in Appendix.

impact of employment rate and income levels is generally negative, but the statistical significance of the parameter estimates is weak. This may be explained by that higher employment rates generate fewer necessity-based start-ups, and that higher income levels increase the opportunity cost of starting a new business and become self-employed.

Why is this type of robust persistence of regional variations in new firm formation rates interpreted as evidence of entrepreneurship culture? A main reason is that culture is by definition a phenomenon that changes in slow processes.

Figure 3 is adapted from Williamson (2000), and outlines different types of institutions and their time scale of change. Williamson argues that social 'embeddedness' is the highest level of institutions and that "...this is where the norms, customs, mores, traditions, etc., are located" (p. 596). This kind of informal institutions change very slowly, on the order of centuries or millennia. They also impose constraints on other (formal) institutions as well as the general workings of the economy, indicated by the solid arrows in the figure. Resource allocation and employment in the economy changes continuously, and on a much faster time scale than institutions.

FIGURE 3. Institutions and time scales of change (based on Williamson 2000).



Williamson's scheme is a useful starting point for a discussion and characterization of regional entrepreneurship culture. Based on Figure 3, a regional entrepreneurship

culture may be defined as spatially localized informal institutions that have to do with the general social acceptance and encouragement of entrepreneurs and their activities in a region. It is thus a top level (informal) institution, influencing the rate of entrepreneurship activity in a region.[37]

If informal institutions such as regional entrepreneurship cultures are historically rooted and evolve in slow processes over time, so should the phenomena dependent on it. The time scale of change is a key characteristic of entrepreneurship culture, making it distinct from other types if determinants of regional start-up rates. In a given moment in time, the entrepreneurship culture may be thought of as a "gift from the past", influencing current entrepreneurship activity.

Williamson (2000) suggests that the effects of informal institutions go through their effect on the institutional environment and governance structures. This is not necessarily the case for entrepreneurship culture in regions that often share the same overall institutional environment (at least if the regions under consideration belong to the same nation). A regional entrepreneurship culture can have direct impact on entrepreneurship activity, such as a 'social' encouragement of individuals to consider entrepreneurship as an alternative to regular employment. This is indicated by the arrows connecting the top level embeddedness with resource allocation and employment.

But even if regions in a country are exposed to the same national institutional and regulatory environment, there might be regional differences the way in which different regulations are implemented. In regions with a strong entrepreneurial culture, for example, a given set of regulations from central government may be interpreted and implemented in a more 'business friendly' way than other regions. Moreover, the entrepreneurship culture in a region may also have an impact on bureaucratic procedures, inter alia the procedures for obtaining licenses from the local government to open a new store or establish a new warehouse in the region. Such bureaucratic procedures include handling speed, attitudes of local government and the general administrative burden.[38]

A historically rooted social acceptance of entrepreneurship in a region may thus influence entrepreneurship in a direct way, but also in an indirect way through a long-term influence on the 'formal rules of the game' in the region as well as the 'play of the game'.

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37. Entrepreneurship is indeed part of an economy's resource allocation and employment. Schumpeter (1934) proclaimed for instance that new firm formation is an important means for resource re-allocation in an economy.
38. Hard data on the spatial variation in this kind of local institutions are rarely available. The Confederation of Swedish Enterprise yet publishes a yearly ranking of Swedish municipalities according to a 'business climate' index. One of the components of this index relate to the attitudes of local authorities and the bureaucracy associated with establishment of new plants, and these components typically show quite large variations across municipalities.

Feedback and Response Mechanisms – a Self-Reinforcing Entrepreneurship Culture?

It is in general difficult to pin down the origins of informal institutions such as an entrepreneurial culture. Williamson (2000) conjectures that many informal institutions "…have mainly spontaneous origins – which is to say that deliberative choice of a calculative kind is minimally implicated. Given these evolutionary origins, they are 'adopted' and thereafter displays a great deal of inertia".

Evolutionary theory would suggest that, sparked by some historical context or event, a regional entrepreneurship culture develops in a self-reinforcing way over extended periods of time. A critical ingredient in this kind of theoretical frame is the existence of a feedback (or response) mechanisms.[39]

Feedback mechanisms imply interdependence, so that a region's entrepreneurship culture is not only a determinant but also in part a product of entrepreneurship activity over long time horizons (cf. North 1990). This kind of effect has been labeled 'institutional hysteresis' (Martin and Sunley 2006), and are in a general sense motivated by spatially bounded learning and externality phenomena.

How can we understand feedback mechanisms in the context of regional entrepreneurship culture? The literature typically emphasizes 'entrepreneurial learning', and the role of imitation and entrepreneurial role models in such processes. I elaborate on this perspective below.

Recognizing and acting upon business opportunities are inherently processes at the individual level, but the context in which these processes manifest themselves is important in shaping individual responses (Verheul et al. 2001). Guiso and Schivardi (2005) argue that entrepreneurial talent is not innate and maintain that when more entrepreneurs are active in a region, people will have greater opportunities to acquire entrepreneurial skills. According to their framework, an individual's accumulation of entrepreneurial skills is partly a function of the regional intensity of entrepreneurs.

Entrepreneurial role models have indeed been shown to have a positive impact on the propensity of people to start new firms (Aldrich 1999, Blanchflower and Oswald 1998, Arenius and Minniti 2005). Knowing an entrepreneur and having an entrepreneur in the family are good estimators of entrepreneurship. Entrepreneur role models not only assist in developing entrepreneurial skills, they are also a sign of the social acceptability of entrepreneurship. In addition, existing entrepreneurs may serve as bellwethers of certain business opportunities that imitative entrepreneurs may follow (Baumol 1993). As such, this means that the recognition of opportunities is also influenced by role models. At the regional level, a wide availability of role

39. The dashed arrows in Figure 3 indeed suggest feedback effects from lower to upper levels.

models may thus generate 'demonstration effects', such that potential entrepreneurs are stimulated to develop an idea in the form of a new firm.[40]

Entrepreneurial learning is an example of a feedback mechanism, and is strongly connected to historical rates of new firm formation. Where are role models for potential entrepreneurs abundant, if not in regions with a history of high start-up rates? A region which for some reason has had a strong new firm formation in the past will have greater opportunities for entrepreneurial learning, stimulating current start-up activity. The level entrepreneurship today then influences the regional density of role models of future entrepreneurs, as well as the general social acceptance of entrepreneurship. This kind of effects illustrates how a regional entrepreneurship culture, through feedback effects, may evolve in a self-reinforcing way over extended periods of time. Feedback effects also provide a further understanding of why the entrepreneurship culture of regions is persistent.

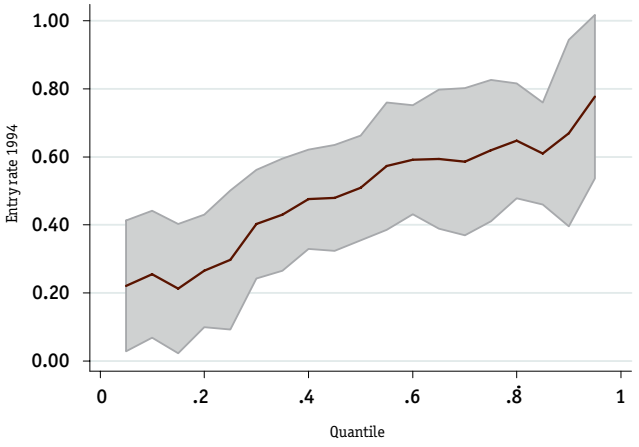
Swedish Evidence of a Self-Reinforcing Entrepreneurship Culture

Are there any empirical regularities supporting the idea of a self-reinforcing entrepreneurship culture? In Andersson and Koster (2011), we try to empirically capture such an effect using data for Sweden. We argue that the existence of feedback effects, promoting an entrepreneurship culture that is self-reinforcing, should imply that the strength of persistence in start-up rates is particularly strong in regions with a high historical entrepreneurship activity. Feedback effects help to sustain and develop an entrepreneurship culture, providing an enduring advantage in particular for regions that have had high start-up rates in the past. These regions are most prone to a self-reinforcing development.

We tested this hypothesis on Swedish data spanning a decade of start-up rates across Swedish municipalities, using transition probability analysis and quantile regression techniques.[41] Transition probability analysis examines whether the likelihood of switching ranks, in terms of the regional level of start-up rates in a given period, is related to the previous rank. The quantile regression technique allows us to test whether the effect of lagged start-up rates on current start-up rates depends on the levels of start-up rates across regions. The empirical counterpart to our hypothesis is that regions with higher start-up rates are more likely to maintain their position, and the effect of past start-up rates are higher for regions with higher rates of start-ups.

40. Johannisson (1983, 1984) discusses and illustrates such an effect in the Gnosjö region of Sweden.
41. We did not have access to longer time series in this work.

FIGURE 4. Estimated marginal effect of the start-up rate in 1994 on the start-up rate in 2004 for the different quantiles of the dependent variable (start-up rate 2004).



Source: Andersson and Koster (2011).

We find support for our hypothesis. The persistence in regional start-up rates is stronger for regions with higher levels of start-up activity. Figure 4 is re-produced form Andersson and Koster (2011) and shows the estimated marginal effect of start-up rates in 1994 on current start-up rates (2004) using quantile regression technique.[42]

It is clear from the figure that the estimated marginal effect of the start-up rate a decade ago is larger the higher the level of start-up rate. This finding has also been confirmed in other studies (e.g. Fritsch and Wyrwich 2012). The empirical regularities with regard to the strength of persistence in regional start-up rates are thus consistent with the idea of a regional entrepreneurship culture evolving in a self-reinforcing manner.

Start-up activity over the business cycle

A localized entrepreneurship culture historically embedded in a region should also manifest itself during changes in economic conditions, such as over the business

42. The underlying data is data on Swedish municipalities. The regression includes several control variables, including education intensity, market-size, share of services, income, employment share and metropolitan dummy. Standard errors are bootstrapped using 3,000 replications. Further details may be found in Andersson and Koster (2011).

cycle. The chapter by Fritsch and Wyrwich in this report illustrates for Germany that there is persistence in start-up rates across regions over periods as long as 80 years – a period over which there has been several significant disruptions.

There is no comparable historical regional start-up data for Sweden, but available data do span a significant downturn in the Swedish economy in the beginning of the 1990s. During the period 1991-1993, for example, the average yearly growth of GDP and GDP per capita amounted to -1.5% and -2.2%, respectively. The average yearly growth in unemployment during the same period amounted to about 3%. Hagberg and Jonung (2005) maintain that the loss in employment in the 1990s crisis is the largest one ever recorded in Sweden, with an employment loss of almost 17% between 1990 and 1994.

How does the rate of start-ups change over such drastic economic swings? There are two basic perspectives on how new firm formation changes over a business cycle. On the one hand, an economic downturn may deter the rate of new firm formation because of fewer business opportunities when the general level of demand in the economy falls. On the other hand, a recession may imply that more people might be pushed into entrepreneurship. Economic downturns can also intensify change processes and creative destruction. A crisis may for instance imply that resources are reallocated, that relative prices change and that 'equilibria' are disturbed, which stimulate profit opportunities for new businesses (Braunerhjelm and Thulin 2010). Economic crises can in other words stimulate opportunity- as well as necessity-based entrepreneurship.

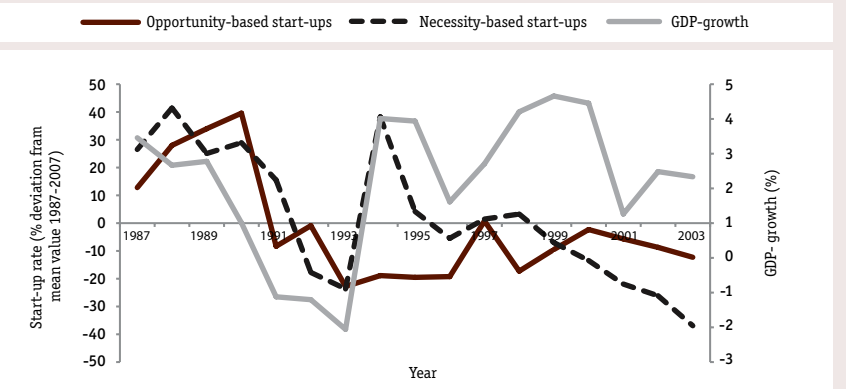
Figures 5 through 8 present the relationship between GDP growth and start-up rates in Sweden, in total as well as for broad sector categories. Start-up rates are consistently measured as the number of new establishments per inhabitant 16-64 years old, and the figures report, for each year, the percentage deviation from the mean start-up rate over the whole period, i.e. 1987-2003 for total start-up rates and 1990-2003 for start-up rates in broad sector categories.[43] GDP is measured in growth rates for each respective year.

I consider two different types of start-ups: (i) start-ups only involving individuals that were unemployed the year before entry and (ii) other start-ups. These two different categories broadly distinguish opportunity- from necessity-based start-ups, where start-ups by individuals that were unemployed the year before are intended to reflect the latter type of start-ups.

Figure 5 presents the relationship between GDP growth (measured on the right vertical axis in percentages) and opportunity- and necessity-based start-ups, where the respective start-up rate is measured on the left vertical axis and presented as the percentage deviation from its mean value over the whole period (1987-2003).

43. The reason I report a shorter time period for the start-up rates in broad sector categories is that the sector coding system changed significantly in the early 1990s.

FIGURE 5. GDP growth and start-up rates in Sweden 1987-2003.



The main patterns in the figure are as follows:

The 1990-crisis was preceded by high rates of both opportunity- and necessity based startups. Opportunity-based start-ups are distinct in that they rose quite sharply in the immediate years before the crisis set in.

- Opportunity- as well as necessity-based start-ups responded to the economic downturn between 1991 and 1993. Both types of start-ups fell during the crisis years.

- Necessity-based start-ups increased significantly in 1994, reflecting that many individuals became unemployed during the economic downturn and tried new firm formation as an escape from unemployment. When GDP growth recovered after the crisis necessity-based start-ups fell consistently.

- There is no comparable rise in opportunity-based start-ups in association with the crisis. Opportunity-based start-ups instead show a relatively steady but slow increase after the crisis as the economy recovered.

These patterns are broadly consistent with economic downturns being associated with less opportunity-based start-ups, for instance due to a fall in general level of demand in the economy. That opportunity-based start-ups yet increase shortly after a crisis may be due to profit opportunities associated with reallocations, price changes and structural adjustments in the economy. Economic downturns and higher rates of unemployment also appear to push individuals to (necessity-based) entrepreneurship.

Figures 6 through 8 present the same relationships for start-ups in (i) agriculture, fishing and extraction sectors, (ii) manufacturing sectors and (iii) private services sectors, respectively. These figures span the 1990-2003 period.

FIGURE 6. GDP growth and start-up rates 1987-2003 in agriculture, fishing and extraction sectors.

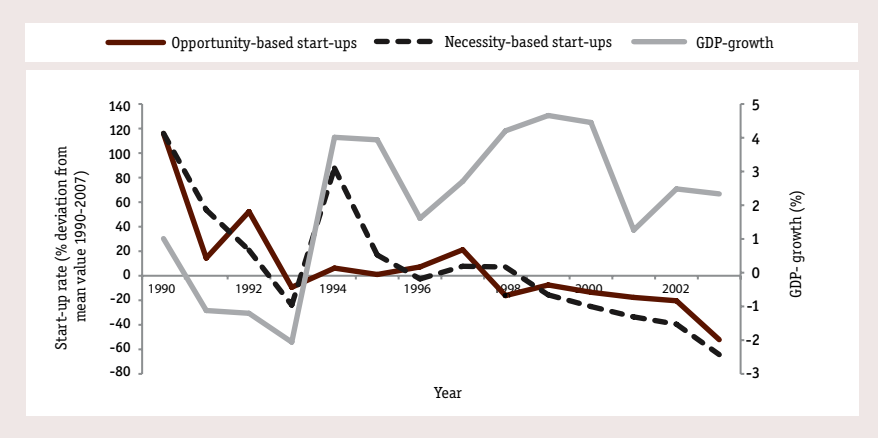
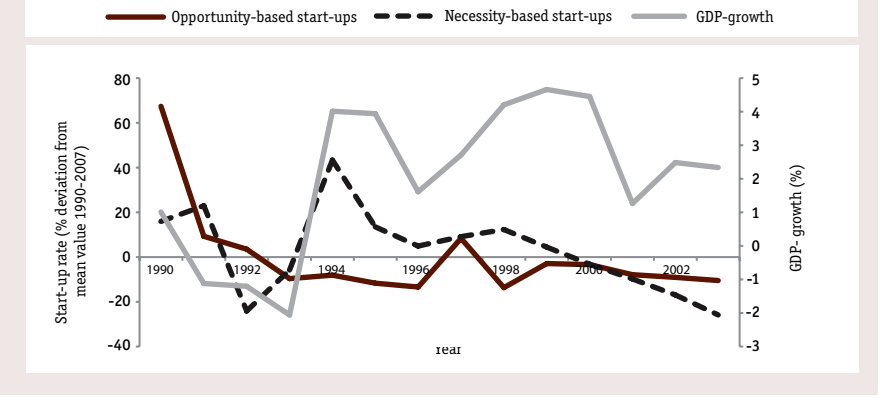


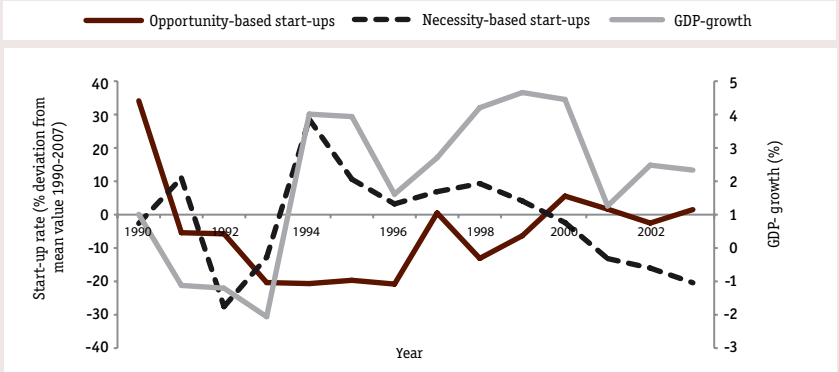
FIGURE 7. GDP growth and start-up rates 1987-2003 in manufacturing sectors.



The main patterns in Figure 5 also hold for the different sector aggregates. For all sectors there is a sharp decline in start-ups between 1991 and 1993, followed by a significant increase in necessity-based start-ups in 1994. Agriculture, fishing and extraction as well as manufacturing show a declining or modest development in

start-ups during the period of recovery after 1994 (Figures 6 and 7). It is instead in private services sectors that opportunity-based start-ups show a clear increase after the crisis in the beginning of the 1990s (Figure 8). This reflects that general shift from manufacturing to services sectors that accelerated in Sweden after the crisis, such that the entrepreneurial opportunities increased particularly in private services sectors. Indeed, an increasing fraction of all start-ups started in services sectors during the period after the recession 1991-1993.

FIGURE 8. GDP growth and start-up rates 1987-2003 in private services sectors.



Does the Geography of Entrepreneurship Change Over the Business Cycle?

The effects of the economic crisis in Sweden were not uniform across regions. Some lost several thousands of jobs whereas others where only marginally affected.

Figure 9 illustrates the distribution of the percentage change in employees between 1990 and 1993 across Swedish municipalities. The percentage change in employees goes from marginally positive to a fall of almost 25 percent. A number of municipalities show a modest decline in employment whereas some lost about a fifth or even a quarter of their employment.

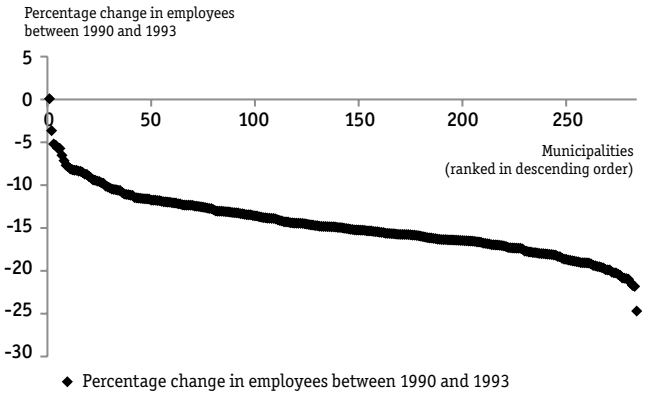
Did the spatial variation in the effects of the economic downturn have any impact on the spatial distribution of start-up activity? If different municipalities were hit differently, it is conceivable one would expect that the crisis had an impact on the spatial distribution of start-ups. On the other hand, as argued previously, an entrepreneurship culture should, because of its slow change and historical embeddedness, survive even major changes in the general economic environment.

To illustrate these questions for Sweden, I compare the spatial distribution of the rates of new firm formation in four different time periods:

- 2004-2007: recent times
- 1994-1997: post-crisis
- 1991-1993: crisis period
- 1987-1990: pre-crisis

Comparisons between respective time periods allow for an assessment to what extent the crisis had an impact on the spatial distribution of new firm formation.
I begin by presenting the overall distribution of the average rates of new firm formation across Swedish municipalities in the four different time periods. Figure 10 presents the estimated Kernel density of opportunity- and necessity-based start-up rates, respectively.[44]

FIGURE 9. Percentage employment change across Swedish municipalities (284) 1990-1993.

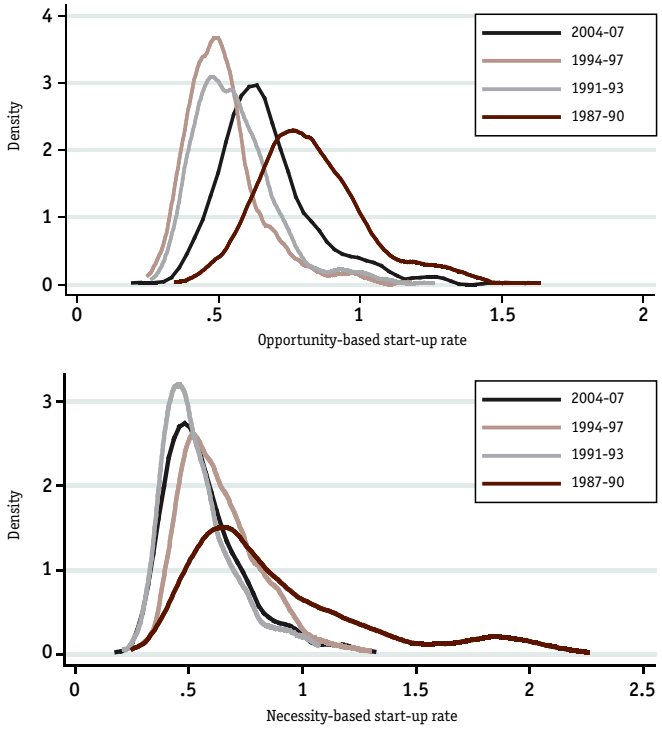


Starting with the opportunity-based start-ups (upper figure), the pre-crisis spatial distribution (1987-1990) were less concentrated, with a higher mean start-up rate. The latter is evident by the curve being positioned to the right of the others, and is consistent with a higher level of opportunity-based start-up rates in the immediate years before the crisis, as reported in Figure 5. During the crisis period (1991-1993) and in the following years (1994-1997) the distribution becomes more concentrated and moves to the left as the average rate of start-ups fall in the economy. The distribution for 2004-2007 is positioned to the right of the distribution for the crisis years as well as the immediate post-crisis years, but its shape remains roughly invariant. A similar pattern is observed for necessity-based start-ups, though the

44. Kernel denisty estimation is a way to estimate the probability density function of a variable.

change in the concentration and the right tail of the distribution during the crisis is much more significant.

FIGURE 10. The distribution of start-up rates across Swedish municipalities in four different time periods (opportunity-based start-ups in the upper figure and necessity-based start-ups in the lower).



One way to appreciate the main patterns in Figure 10 is that the pre-crisis period was a 'bubble period' inspiring entrepreneurial endeavors (opportunity- as well as necessity-based) in the whole economy, with a less concentrated spatial distribution of start-ups as result. When the bubble burst in the beginning of the 1990s the rate of start-ups then generally declined and became more spatially concentrated.

While illustrating the overall spatial distribution of rates of new firm formation, the estimated Kernel densities in Figure 10 do not inform about the position of

different municipalities in the distributions in the different time periods. In principle, a distribution can remain invariant over time although the different municipalities change positions in the distribution.

In order to test if regional start-up rates are persistent over the business cycle in the sense that the municipalities keep their position in the (spatial) distribution of new firm formation rates over time, I do two things. First, I present Spearman rank correlation coefficients between the average start-up rate across Swedish municipalities 2004-2007 and the three other time periods, respectively. Spearman rank correlation coefficients measure how tightly ranked data cluster around a straight line and take a value between -1 and +1. Positive (negative) coefficients imply a positive (negative) association between the ranks, and a correlation close to zero means there is no linear relationship between the ranks. Second, I estimate simple linear regressions with the average start-up rate in 2004-2007 as the dependent variable and 'explain' this with the average start-up rate in the other respective periods. I then present the R-squares of these estimations. These R-squares inform about what fraction of the variance in the current average start-up rates across Swedish municipalities that is explained by the start-up rates in the other time periods. If the Spearman rank correlation coefficients and the R-squares are high, it means that the municipalities tend to keep their position in the spatial distribution of start-up rates even in periods of significant changes in the general economic environment.

Spearman rank correlation coefficients are reported in Table 1 and the R-squares of the simple linear regressions are presented in Table 2. It is evident from Table 1 that the rank correlation coefficients are high and statistically significant, indicating that municipality's position tend to be stable even over periods of significant economic crisis. Looking at the R-squares in Table 2, over 70% of the variance in opportunity¬- as well as necessity-based start-up rates today is explained by the same type of start-up rates during the crisis years (1991-1993) as well as the pre- and post-crisis periods.

The main conclusion is that when the general level of start-up activity changes during a business cycle, the regional distribution of start-ups change in terms of its concentration. But the data yet suggest strong persistence in regional start-up rates over a business in the sense that the position (or rank) of municipalities is rather invariant over a business cycle. The start-up rates during an economic downturn are also able to explain a significant fraction of the variation in start-up rates in 'normal' times several years after the crisis. These patterns are in line with what one would expect in the presence of persistent differences in entrepreneurship cultures across regions.

Table 1. Spearman rank correlation coefficients between the average start-up rate across Swedish municipalities in 2004-2007 and in three other respective time periods.

	Opportunity-based start-up rates	Necessity-based start-up rates
1994-1997	0.79	0.81
1991-1993	0.74	0.83
1987-1990	0.72	0.81

Note: All correlation coefficients significant at the 0.01 level.

Table 2. Fraction of variance in the average start-up rate 2004-2007 across Swedish municipalities explained the start-up rate in three different time periods.

	Opportunity-based start-up rates	Necessity-based start-up rates
1994-1997	0.72	0.62
1991-1993	0.63	0.73
1987-1990	0.61	0.62

Note: The table reports the R-square from three separate regressions with the average start-up rate 2004-2007 as the dependent variable and the average start-up rate in 1994-1997, 1991-1993 and 1987-1990 as respective independent variables.

Policy Discussion

In this chapter I have discussed regional entrepreneurship cultures, and demonstrated a number of empirical regularities for Sweden that speaks in favor of regional entrepreneurship being an important source of the large and persistent regional variations in the rate of new firm formation. What are the policy lessons from the chapter?

A first remark is that policy cannot change a region's history. Historically rooted and embedded phenomena, such as entrepreneurship cultures, must be perceived as 'gifts from the past'. Policy should yet be based on recognition of the role played by historical and cultural factors and be adapted to the circumstances in different regions.

Accepting entrepreneurship cultures means for example that the (local) effects of the same policy measures may be quite different depending on the region in which they are implemented. Take for instance the common discussion about the magnitude of local multipliers associated with various kinds of regional investments, such as the

opening of a new plant, upgrading or construction of highways or the establishment of a local university. Local multiplier effects refer to that these investments often generate a larger number of jobs than those directly associated with the activity pertaining to the investment. The reason for this is that investments of this kind stimulate demand throughout the local economy through expenditure linkages. A new plant in a local economy, for instance, means a greater number of employees that demand local services such as hairdressers and restaurants. Part of multiplier effects of this kind are materialized in the form of individuals (or entrepreneurs) acting on new entrepreneurial opportunities provided by the investment. But the extent to which individuals in a region do so may be linked to the entrepreneurship culture prevailing in the region. In other words, in regions with a 'strong' entrepreneurship culture – where the social acceptance of entrepreneurship is high and entrepreneurial activities are (socially) encouraged – the local multiplier effects of a given type of investment may be larger because the inhabitants are more prone to recognize and materialize entrepreneurial opportunities. The message is that 'one size fits all' policy-making at a regional scale is likely to be inefficient. Discussions of policy measures and their expected effects should acknowledge and be adapted to contextual factors in the regions in which the policy measures are supposed to be implemented. Given the role played by entrepreneurship cultures, this appears particularly relevant in the context of policy aimed at stimulating regional entrepreneurship.

Another lesson for policy is that historically rooted phenomenon like entrepreneurship cultures change in slow processes, which means that policy intended to stimulate the level of entrepreneurship in a region has a difficult task. Short-term policies are likely to be of little help in altering path-dependent development trajectories of regions. The characteristics of entrepreneurship cultures provide arguments for that entrepreneurship policies should be catalytic in nature and have long term horizon. This gives further support for the idea of that the type of 'framework conditions' imposed on fiscal policy in Sweden since the crisis in the beginning of the 1990s may be suitable also for policies pertaining to innovation and entrepreneurship. This idea has for example recently been launched by Braunerhjelm et al (2012). Empirical evidence of entrepreneurship being significantly influenced by durable and slowly changing cultural factors further strengthen the idea of long-term horizons and persistence of policies intended to stimulate it.

With regard to the question which regions to aim for with start-up policies, we argue in Andersson and Koster (2011) that there are in principle two basic contrasting perspectives. On the one hand it could be argued that policy efforts should be concentrated to regions with already established entrepreneurial climate, as the effects of a policy may be higher in these regions, e.g. more people willing to opt for starting new businesses. On the other hand, one could argue that policy efforts should instead be concentrated on the lagging regions as the leading regions will be fine anyway.

Policy aiming at a real influence on start-up activity and the long-term development in these regions most likely need to be catalytic in nature, able to alter pertinent

slowly changing features of the regions (cf. Andersson and Johansson 2012). Such catalytic policy measures could, for example, comprise measures to increase the in-migration of people with entrepreneurial skills and competencies through e.g. novel housing policies or it may comprise of the establishment of new R&D centers with supporting efforts to materialize the entrepreneurial opportunities they give rise to. It could also focus on stressing entrepreneurial skills in education. Although the specific policy measures may differ from region to region, the main implication is that policy should focus on influencing the structural elements of a regional economy. This in turn can then influence the entrepreneurial activity in the long run.

I have already emphasized that these processes of change are inherently slow and that policy measures should have a long time horizon. Such policy strategies appear to have higher potential than start-up policies that focus on small adjustments of the conditions for starting new firms, e.g. start-up subsidies in lagging regions.

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Ordlista

a priori assumption	antagande vid utgångspunkten; på förhand given
arbitrageur	"handlare"; som bidrar till att upprätta jämvikt (arbitragör)
Basel III	en regleringsstandard som ställer krav på banker gällande kapital och likviditet
bivariate correlations	begrepp inom statistik som anger styrkan och riktningen av ett samband mellan två variabler
bourgeois anachronism	borgerlig otidsenlighet
Business Advisory Service, BAS	statligt finansierad affärsrådgivningsservice
business cycle	konjunkturcykel
business ownership rate	andel företagsägande
catalytic policy measure	en policyåtgärd som startar en förändringsprocess
construct (subst.)	tankefigur, begrepp
contemporaneous	samtida
counter-cyclical policy instrument	ekonomiskpolitisk åtgärd som syftar till att dämpa konjunktursvängningar
counterintuitive	i motsats till det förväntade
counter-recessionary tool	åtgärd för att motverka lågkonjunktur
co-variation	samvariation, samband
creative destruction	kreativ förstörelse, begrepp som beskriver den förändringsprocess som följer viktig ekonomisk eller teknologisk utveckling och bygger på inträde av nya företag och utslagning av existerande

credit crunch	kreditkris, bankernas minskar sin riskexponering radikalt och tillgången på kredit minskar kraftigt
determinants of entrepreneurship	faktorer som förklarar eller driver på entreprenörskap
de-trended unemployment rates	begrepp där arbetslöshetsstatisken fördelas på kortsiktiga förändringar och trend
disbursement of public money	utbetalning av offentliga medel
econometric structural break test	ekonometriskt test för att hitta förändrade samband mellan variabler
economic stabilization tool	ekonomisk stabiliseringsåtgärd, den makro-ekonomiska stabiliseringspolitiken består av finanspolitik och penningpolitik
Employment Assistance Scheme, EAS	statligt sysselsättningsstöd
endogenously	händelse eller effekt bestämd av en modell eller ett system
entrepreneurial role models	entreprenöriella förebilder
entrepreneurship as a timely source of macroeconomic stimulus	entreprenörskap som en passande makro-ekonomisk stimulansåtgärd
entrepreneurship capital	entreprenörskap definerat som en produktions faktor, jämför arbetskraft och kapital
estimated Kernel density	en icke-parametrisk (baseras på rangordningar och median) teknik för skatta en variabels sannolikhetsfördelning
exogenous shock	händelse eller effekt som inte bestäms av en modell eller ett system
exogenous technological shocks	teknologisk förändring eller upptäckt som kommer utifrån och ej är härledd av modellen eller ett system

externality	externalitet eller extern effekt, föreligger om en ekonomisk transaktion påverkar nyttan för tredje part
fiscal boost to the exchequer	finanspolitiskt uppsving för statskassan; ökade skatteintäkter
forecast error variance decomposition	en metod att studera olika variablers bidrag till variansen i prognosfel
Granger causality test	statistisk test av orsakssamband
harmonized unemployment rates	standardiserad arbetslöshetsnivå för att under lätta jämförelse mellan länder
imitative entrepreneurship	imiterande entreprenörskap, startar företag med liknande affärsidé som existerande entreprenörer (till skillnad mot "innovative entrepreneurship")
implementation cycles	cykliska perioder av genomförande
incumbent entrepreneurship	nuvarande entreprenörskap, entreprenörer/ företag som redan existerar
in-migrants	migration inom ett och samma land
innovative entrepreneurship	innovativt entreprenörskap, startar företag i t ex ny nisch, med ny teknik eller ny metod (till skillnad mot "imitative entrerpreneurship")
institutional hysteresis	Institutionellt beroende som inte bara syftar på ett beroende av nuvarande institutioner utan också av tidigare
intergenerational transmission	överföring mellan generationer
intermediary targets	mellanliggande (del)mål
knowledge spillover	kunskapsöverföring
lagging indicator	indikator som visar på eftersläpande effekter

lead or lag variable	variabel som leder eller släpar efter annan variabel, i aktuellt fall: följer entreprenörskapet konjunkturcykeln?
leading indicator	Indikator som ändras före resten av ekonomin
leverage	hävstångsverkan
Loan Guarantee Scheme, LGS	statlig lånegaranti
multiplier effects	innebär att små initiala förändringar kan generera stora förändringar på sikt
multivariate regression analysis	en statistisk teknik som undersöker om det finns ett samband mellan den variabel som ska förklara (beroende) och två eller flera förklarande (obereonde) variabler
nascent entrepreneurship	entreprenörskap i vardande; begynnande entreprenörskap, entreprenörskap i sin linda
necessity entrepreneurship	nödvändighetsbaserat entreprenörskap, start av företag pga behov av inkomstkälla
normative-cognitive layers	underförstådda förväntningar och regler i en social gemenskap
opportunity entrepreneurship	möjlighetsbaserat entreprenörskap, startar företag på basis av idé
out-migration	utflyttning inom ett och samma land
path-dependent development trajectories	utvecklingsbanor som är beroende av det förflutna
peer effects	följdeffekter och påverkan av förebilder
persistent entreprenurhsip	uthålligt företagande
physcial production amenities	fysiska produktionsförutsättningar och produktionsmiljö
predictive power	prognosförmåga

preemptive recovery program	förebyggande återhämtningsprogram
pro-cyclicality	konjunktursförstärkande
propensity score	benägenhetsbedömning
proprietor	innehavare, ägare
proxy (for entrepreneurship)	annan, ställföreträdande, variabel som används för att mäta företagande
push and pull effects	push-faktorer är ogynnsamma (nödvändighets-baserat entreprenörskap) pull-faktorer är gynnsamma (möjlighetsbaserat entreprenörskap)
quantile regression technique	regressionsanalys i statistik och ekonometri, resulterar i uppskattningar av värden på responsvariabeln
ready-made formal institutional framework	färdigt ramverk
redistribution	inkomstomfördelning
residual claimants	i nationalekonomi, den som nettoinkomsten tillfaller, dvs när när övriga kostnader är betalda
resilient	motståndskraftig
role model	förebild
R-square	ett mått som visar hur stor andel av den totala variationen i en variabel som förklaras av den skattade modellen
self-employment	egenföretagare utan anställda; soloföretagare
self-perpetuating entrepreneurship culture	självförstärkande entreprenörskapskultur
severe shocks	allvarliga ekonomiska förändringar (som påverkar konjunkturen)

simple linear regression	enkel linjär regression med en enda förklarande variabel, en rät linje genom ett antal punkter
social embeddedness	social förankring
soft institution	icke formaliserade regler, informell kultur
Spearman rank correlation coefficients	korrelationskoefficient och ett icke-parametriskt (baseras på rangordningar och median) mått av statistiskt beroende mellan två variabler
speculative conjecture	spekulativa gissningar
standard deviation	standardavvikelse, ett statistiskt mått på hur mycket värden i en population i genomsnitt avviker från medelvärdet
standard Hodrick-Prescott filter	matematiskt verktyg i makroekonomi, särskilt i konjunkturcykelteori, för att separera den cykliska komponenten från trend i en tidsserie från rådata
start-up rate	andel nyföretagare
statistically significant	statistiskt signifikant, ett mått på grad av säkerhet vid statistiska mätningar
stylized fact	allmänt observerad empiri som beskriver förhål landen och utveckling
supportive infrastructure	stödjande uppbyggnad, stödjande resurser
transition probability analysis	matematisk analys för att kalkylera övergångar från ett tillstånd till ett annat
wage-and-salary labor market	den reguljära arbetsmarknaden
venture capital, VC	riskkapital
viable career option	möjligt yrkesval, karriärväg

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By the end of 2012 the leading economies and strongest regions are still searching for a way out of slow growth and recession. Conventional monetary policies have been replaced by more unconventional measures such as quantitative easing with uncertain long-time outcomes, and fiscal policies are circumscribed due to either divergent political views (e g US fiscal cliff) or demand for austerity measures (within the EU). Might entrepreneurship provide a way out of this political dead end?

This question is addressed in The Swedish Economic Forum Report 2012. New findings are presented as to how entrepreneurship influences, and is influenced by, different phases of the business cycle and the level of unemployment. The role and dynamics of entrepreneurial cultures and norms, and how these interact with the business cycle, is also examined through a detailed analysis on regional data for Germany and Sweden. Finally, the report discusses how economic policy can benefit from these new insights concerning the interconnection between entrepreneurship, the business cycle, unemployment and entrepreneurial cultures.

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