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How much capital should banks hold?

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E i de ch a he c e c a i (COVID-19) c i i migh lead a ig ifica i e i b e defa l a d, c e e l, eak e i he ba ki g ec . Ha i g ell-ca i ali ed ba k make he fi a cial e m m e e ilie che i de . We a e h m ch ca i al ld be i mal f ba k h ld, aki g i c ide ai he i k f ba ki g c i e di e b b e defa l (hich e e m i defa l c i e).

We fi d ha, i he c e f m del, ba k ca i al e i e me fa d 15% ide he i mal ade- ff be ee l e i g he f e c f ba ki g c i e ca ed b b e defa l a d mai ai i g he a ailabili f c edi i nal i me . While he e ac fig e de e d a nbe fa m i , i i highe ha he Ba el III mi i m m a d ha he i m m i m lied b mac ec mic fa me k ha de e i ma e eglec he i m ac f b e defa l ba k l e c .

I d c i

H d ba ki g c i e cc a d h ca ba k ca i al e i e me a d he mac de ial licie hel ed ce he f e c a d e e i f he ec i e ? Si ce he gl bal fi a cial c i i i 2008-2009, he field f mac ec mic ha made big ide i i eg a i g ba ki g a d fi a cial fic i i a da d a al ical fa me k . Thi ha hel ed deli e e a i a i e i igh i hi e i . Ne e hele , m e ha a decade af e he fi a cial c i i , he i mal le el f ba k ca i al e i e me e mai a e e i .

T a e he i mal le el f ca i al e i e me , i i c cial a if hei be efi a d c . Highe ca i al e i e me ed ce he babili f ba ki g c i e a he e e f e ic i g he l f ba k c edi i nal i me . T e al a e hi ade- ff e ide a fa me k ha ca e ell he beha i f he ec m l i nal i me b al d i g e i d f ba ki g c i e d i e b ba k e i decli e (Ba , Ve e a d Xi g, 2019).

O e ecific challe ge ha ha bee add e ed i he c e deba e i e l a if he cha el ia hich b e defa l lead ba k i l e c . I Me dici , Nik l , Ra mi e , S a e a d S e a (2020), e de el a c al ge e a l e ilibi m m del f ba k defa l i k a d de ake a a i a i e e l a i f he le f b e defa l i ge e a i g a e b e e e e i de f ba k fail e , hich a e a cia ed i h la ge l e . We h ha de e i ma i g he i m ac f b e defa l ba k l e c bia e d a d he i mal le el f ba k ca i al e i e me .

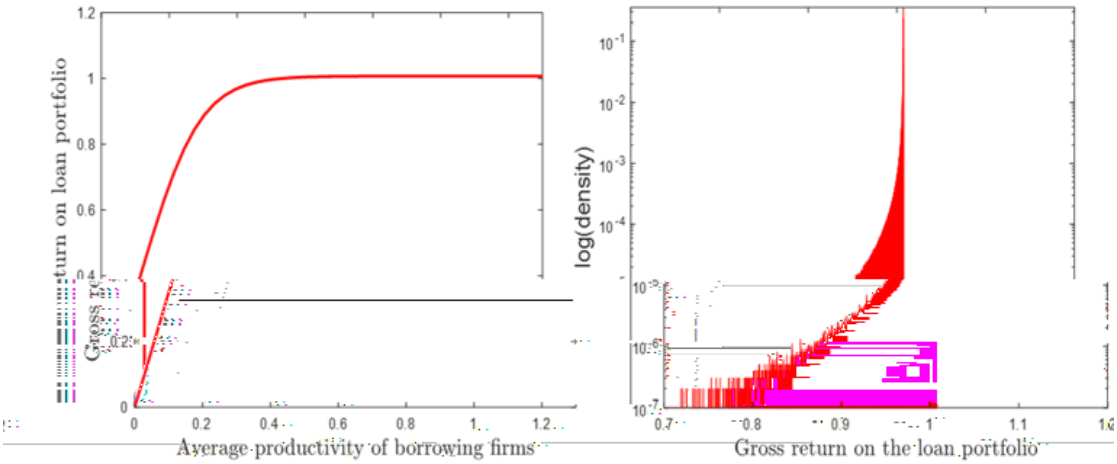
The mecha i m

l f a me k, ba k l e c ble m a i e e d ge l f m high defa l a e a m g hei b e . L a ha e li mi ed ide e ial beca e heal h b e me el e a he c ac all ag eed a m i cl di g i e e . H e e, he ca ig ifica d ide i k d e he ibili f defa l . Al h gh e a e he fi i hi a m me i e (e.g. Nagel a d P a a da m (2019)), e e l ei i m lica i i a a i a i e ge e al e ilib i m m del. The a m me ic e ba k l a lie a he hea f mecha i m.

Fig e 1 bel h h hi i igh e a e i a i m le m del f a ba k h ldi g a f li fl a . The lef a el h he e hel a f li a af ci f he a e age d c i i f he b i g fi m . We ca clea l ee h he e he f li i i e i i e b e d c i i he he la e i high, b i de e i a e ha l a d c i i fall . The igh a el f Fig e 1 h he di ib i f he a e f e ba k ecei e l a . The a e highl ke ed he lef : hi mea ha he m likel c me i ha m b e e a f ll ; b he ei al g lef ail f e l e d e high b e defa l . The ke b e a i i ha hi lef ke e i he di ib i f ba k l a f li e a i e e d ge l d e he -li ea e f ba k l a (, m e ge e all , deb c ac), e e he he h ck he d c i i f b i g fi m ha e a a da d l g- mal di ib i . I he d , ba k e a e a m me ic e e if he h ck ha affec b e a e f ll m me ic.

Figure 1

Ba k a e e a af ci f he b i g fi m d c i i (lef a el) a d he babili di ib i f ba k a e e (igh a el) he a e i k e m f m b e defa l



S ce: Me dici e al (2020).

The a m me h i he cha a i e e d ge l i n del a d i m lie ha ba k bala ce hee a e m e e i i e ece i ha b m . M f he i me, he ef e, ba k a e e able

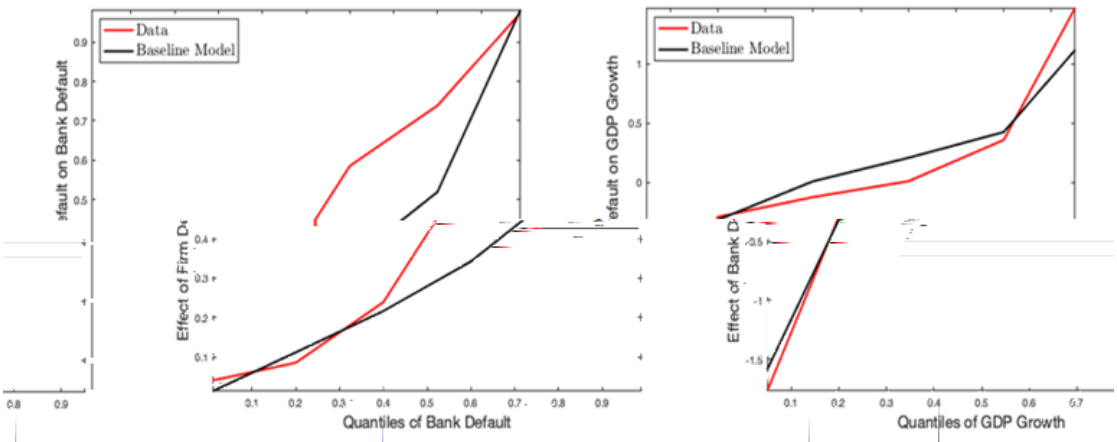
a d afe b a fficie l dee ece i ca h he n i l e c . Ca i g hi fac all
n del na ch he ec n beha i i nal i ne hile ge e a i g a e b e e e i defa l
c i e i.e. e i de f high fi n defa l ha e l i ba k l e c ble m a d dee ece i .
D i g ch e i de ba k l e c i m ch n e e i i e he heal h fi b e . The babili
f ba k defa l al bec me n e highl c ela ed i h GDP g h.

O e a f e e e i g he -li ea ela i hi be ee fi m a d ba k defa l i k a d GDP g h i
h gh a ile eg e i . Ra he ha f c i g a e age c -n e me a di a lea a e
eg e i d , a ile eg e i all f a diffe e ela i hi a diffe e i i he di ib i f
defa l a d ec mic ac i i . The a e a g d a de c ibe he -li ea i ie i ec mic
ela i hi i he da a.

The e l i he lef a el f Fig e 2 bel i dica e ha he i m ac f fi m defa l ba k defa l i he
da a (ed li e) i highe he ba k a e m e f agile a d hei babili f defa l i al ead ele a ed.
The black li e h ha he m del e lica e hi -li ea ela i hi e cl el . l addi i , he igh
a el f Fig e 2 h ha he e i a g ega i e li k be ee GDP g h a d ba k defa l a l e
a ile f GDP g h (i.e. i ece i). Thi i c i e i h he i m a ce f fi a ci g c di i
a a de e mi a f he ec m d ide i k (Ad ia , B a che k a d Gia e, 2019). O m del
(black li e) ca ni mic he e -li ea i ie ell ha k he -li ea c e f ba k a e e ,
hich al de e mi e i abili e d ce he f e e c a d e e i f e i de f high fi m a d ba k
defa l a d he a cia ed dee ece i .

Figure 2

The -li ea ela i hi be ee fi m defa l , ba k defa l a d GDP g h i he e a ea: 1992-2016



S ce: Me dici e al (2020). The -a i h he c efficie f a eg e i f Ba k defa l Fi m defa l (lef a el) a d f GDP g h Ba k Defa l (igh ha d ide)

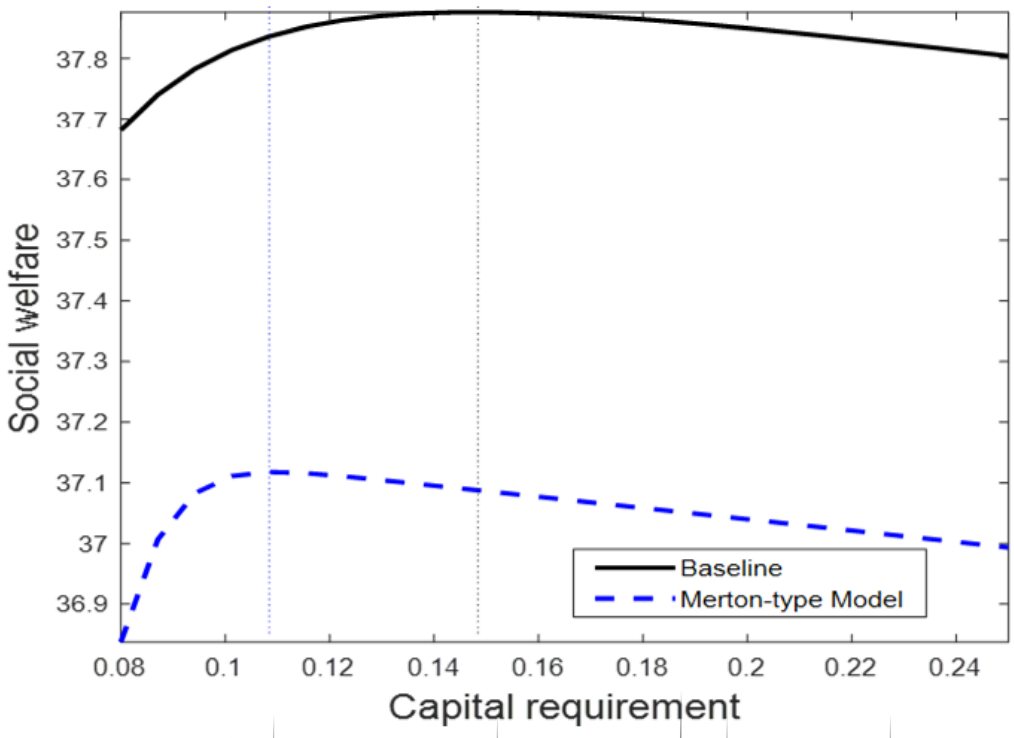
l m lica i f he i mal le el f ca i al e i e me

Ha i g b il a m del f ba ki g c i e d i e b b e defa l , e ei a al e he i mal le el f ba k ca i al e i e me , i.e. ha kee he ba ki g e m afe i h i m i g d l la ge c . We fi d ha , a hi i mal le el, he babili f a ba ki g c i i i c ide abl ed ced beca e he ba ki g ec i m e b ec mic h ck . Thi i be eficial beca e c i e a e c l a d ed ce elfa e ig ifica l he he cc . H e e , highe ca i al e i e me al e ail c i mal i me beca e he i c ea e l a i e e a e a d l e i e me a d . The i mal le el f ba k ca i al e i e me ake he e c i acc .

The black lid li e i Fig e 3 bel h h cial elfa e cha ge i h ba k ca i al e i e me . Highe ca i al e i e me i m e a ade- ff be ee ed ci g he babili f i defa l c i e a d mai ai i g he l f ba k c ed i mal i me . Acc di g m del, a ca i al e i e me f a i ma el 15% i i mal.[2] C m a ed i h he 8% (e-fi a cial c i i) ca i al e i e me , elfa e i highe a he i mal le el beca e he gai f m he ed ci i he babili f ba k defa l eigh he l e f m i m i g highe f di g c ba k . O ce he ca i al e i e me e ceed 15%, h e e , he ega i e effec f ele a ed b i g c f fi m d mi a e a d elfa e decli e .

Figure 3

Welfa e effec f ba k ca i al e i e me



S ce: Me dici e al (2020). The -a i h he le el f S cial elfa e, mea ed a he elfa e f he e e e a i e h eh ld i he m del. The Me - e m del i a e i f m del hich a me ha ba k a e f e l a i l g- mall di ib ed.

C ciall , he f e e c a d e e i f ba ki g c i e d i e b b e defa l i a ke de e ni a f he i mal le el f ca i al e i e me e c ibed b he m del, a d ig i g i bia e he i mal le el d a d. T h hi e b ild a a ia f m del ha ni mic he c m m l ed Me - e a ach ba k defa l i k.[3] Thi a ia d e ca e he -li ea i i ba k a e e a d, he ce, he f e e c a d e e i f i defa l c i e b e ed i he da a.

The bl e da hed li e i Fig e 3 e he i m ac f ca i al e i e me elfa e de hi al e a i e Me - e a ach ba k a e e .[4] E e h gh, a he e-fi a cial c i i (ba eli e) ca i al e i e me he e -a e babili f ba k defa l i calib a ed be he a me i b h m del , i ha he i mal ca i al e i e me i a d 5 e ce age i l e i he Me - e a ach. Thi i beca e i m del ba k i l e cie l k babili b -

[2] Thi i highe ha he Ba el III ni i n n hich i e al 10.5% ce he 2.5% Ca i al C e ai B ffe i f ll l aded.

[3] Si ce Me (1974), a da d n del f defa l a me a l g- nal di ib i f a e e .

[4] l a Me - e f n lai i i ge e all a ned ha ba k a e i k i ca ed b e ge l g- nal h ck ba k a e e .

C igh 2021, E ea Ce al Ba k