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Ö Ý q – ê 3 Ù ~ / n k + G 8 9

. å – ê 3 Ù ~ / n k + G 8 9

: Ù ¹ - – ê 3 Ù ~ / n k + G 8 9

$ ’ å – ê 3 Ù ~ / n k + G 8 9

o : – ê 3 Ù ~ / n k + G 8 9

0 * ¸ – ê 3 Ù ~ / n k + G 8 9

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% ã Ú Z – ê 3 Ù ~ / n k + G 8 9

9 I v ¬ å – ê 3 Ù ~ / n k + G 8 9

F Ú ¹ - ~ 6 À Ú Z E § 8 Ú Z å À Ú Z ¹ ç 9 – ê 3 Ù ~ / n k + G 8 9

E § > Œ À ³ • – ê 3 Ù ~ / n k + G 8 9

Ó » ¹ - – ê 3 Ù ~ / n k + G 8 9

x ä – ê 3 Ù ~ / n k + G 8 9

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œå – ê 3 Ù ~ / n k + G 8 9

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g å À ~ 6 f g ¹ É – ê 3 Ù ~ / n k + G 8 9

. ¬ 0 – ê 3 Ù ~ / n k + G 8 9

w —¦ å À ¹ - – ê 3 Ù ~ / n k + G 8 9

Ç Q – ê 3 Ù ~ / n k + G 8 9

• 0 å – ê 3 Ù ~ / n k + G 8 9

x ä – ê 3 Ù ~ / n k + G 8 9

Ì Ô å – ê 3 Ù ~ / n k + G 8 9

å ¹ - – å – ê 3 Ù ~ / n k + G 8 9

- 0 å – ê 3 Ù ~ / n k + G 8 9

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» µ å À ¹ - – ê 3 Ù ~ / n k + G 8 9

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~ 6 B ? – ê 3 Ù ~ / n k + G 8 9

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, ¹ - – ê 3 Ù ~ / n k + G 8 9

Ž å – ê 3 Ù ~ / n k + G 8 9

È Ø À ƒ – ê 3 Ù ~ / n k + G 8 9

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s 1 – ê 3 Ù ~ / n k + G 8 9

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%å – ê 3 Ù ~ / n k + G

þ P å À ~ 6 ÿ – ê G • 3 Ù ~ / n k + G 8 9

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9 É ¹ - – ê 3 Ù ~ / n k + G 8 9

/ ~ Ý å – ê 3 Ù ~ / n k + G 8 9

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E ù > v 1 × + û œ 0 ¶ U @ < 4 Ý - $ ‹ F

4Ýa	U @C0&	U @C0&
7	&LUFXODWRQ	&DUGLRYDVFXODU5HVHDUFK
	(XURSHDQ+HDUWRXQDO	(XURSHDQ-RXUQDORI+HDUWY DLOXUH
	-RXUQDO RI 7KH \$PHULFDQ &RQJUH RI &DUGLRORJ\	-\$&& &DUGLRYDVFXODU,QMXULHVQWRQV
	/ ï 3 • È v	-RXUQDO RI 0RGFXODU DQG &HOOXODU &DUGLRORJ\
	&LUFXODWRQ5HVHDUFK	-RXUQDO RI 7KH \$PHULFDQ 6RFLHWV RI (FKRFDUGLRJUDSK\
	-\$&& +HDUWY DLOXUH	
7	&LUFXODWRQ&DUGLRYDVFXODU,QMXULHVQWRQV	\$UWHULRVFOHURVLV 7KURPERVLV DQG 9DVFXODU%LRORJ\
	-\$0\$ &DUGLRORJ\	/ ³ &ï ƒ È 0 v
	1DXUH5HYLHZV&DUGLRORJ\	/ ï Ð ž (0 v
	-\$&& &DUGLRYDVFXODU,P DJLQJ	/ ï 3 • ó ³ v
	&LUFXODWRQ\$UWK\WKP LD DQG (OHFWURSK\VLRORJ\	/ ³ 6 , v
	%DVLF5HVHDUFK LQ&DUGLRORJ\	/ ³ ï ƒ o Ò 0 ï (“ 8 v
7	+HDUW	(XURSHDQ+HDUW-RXUQDO&DUGLRYDVFXODU ,P DJLQJ
	(XUR3DFH	&OLQLFDO5HVHDUFK LQ&DUGLRORJ\
	-RXUQDO RI 7KRUDFLF DQG &DUGLRYDVFXODU 6XUJHU\	(XUR,QMXULHVQWRQ
	\$PHULFDQ+HDUWRXQDO	3URJUHVVLQ&DUGLRYDVFXODU' LVHDVHV
	&LUFXODWRQ+HDUWY DLOXUH	-RXUQDO RI &DUGLRYDVFXODU 0DJQHWF 5HVRQDQFH
	-RXUQDO RI 7KH \$PHULFDQ +HDU \$\WRFDWRQ	/ : 3 B v
	+HDUW6K\WKP	/ - ï —3 • È v
	+\SHUWHQVLRQ	, • ï 3 • È v
	&LUFXODWRQ&DUGLRYDVFXODU* HQHWFV	/ f ¤ æï —3 • È v
	\$PHULFDQ-RXUQDORI &DUGLRORJ\	/ ³ Ó • ï ƒ È 0 v
	&LUFXODWRQ&DUGLRYDVFXODU,P DJLQJ	/ ï O ú ä ï t È v
	&DUGLRYDVFXODU LDEHWRORJ\	

E » <# œ0 ¶ U @<4Ý-$ ‹ F

4Ýa	U @C0&	U @C0&
7	&HOOO HWDERODVP	-RXUQDO R &OQLFDO (QGRFULQRORJ\ 0 HWDERODVP
	/ DQFHW LDEHWV (QGRFULQRORJ\	7K\URLG
	1 DWXUH5HYLHZV(QGRFULQRORJ\	7UHQGV LQ (QGRFULQRORJ\ DQG 0 HWDERODVP
	(QGRFULQH5HYLHZV	' LDEHWV
	' LDEHWV&DUH	-RXUQDOR %RQHDQG0 LQHUDO5HVHDUFK
7	0 RO HFXODU0 HWDERODVP	%RQH
	) URQWLHUVLQ1 HXURHQGRFULQRORJ\	' LDEHWV2 EHVLW\ 0 HWDERODVP
	' LDEHWRORJLD	(QGRFULQRORJ\
	2 EHVLW\5HYLHZV	/ • Ó ? Ý æv
	2 EHVLW\	
7	0 RO HFXODUDQG&HOOXODU(QGRFULQRORJ\	2 VWHRSRURVLV,QWHUQDWLRQDO
	0 HWDERODVP &OLQLFDODQG([SHULP HQWDO	' LDEHWV 0 HWDERODVP
	(XURSHDQ-RXUQDOR (QGRFULQRORJ\	-RXUQDOR ' LDEHWV
	(QGRFULQH5HDFWG&DQFHU	' LDEHWF0 HGLFLQH
	&DUGLRYDVFXODU' LDEHWRORJ\	(QGRFULQH
7	,QWHUQDWLRQDO-RXUQDOR 2 EHVLW\	&OLQLFDO(QGRFULQRORJ\
	1 HXURHQGRFULQRORJ\	/ €) ß ä € à W…È v
	%HWW 3UDFWLFH 5HVHDUFK &OLQLFDO (QGRFULQRORJ\ 0 HWDERODVP	/ z µ È v
	-RXUQDOR (QGRFULQRORJ\	³ • • Ó ? Ý æv
	(QGRFULQH3UDFWH	

E u0 œ0 ¶ U @<4Ý-$ ‹ F

4Ýa	U @C0&	U @C0&
7	-$0 $ 3HGLDWULFV	3HGLDWULF5HVHDUFK
	3HGLDWULFV	3HGLDWULF&OLQLFVR1 RUWK$P HULFD
	-RXUQDOR 3HGLDWULFV	: RUOG-RXUQDOR 3HGLDWULFV
	3HGLDWULF&UWLFDO&DUH0 HGLFLQH	/ ~ ³ v
	$UFKLYHVR ' LVHDVHLQ&KLOGKRRG	/ ³ 6 ~ ³ v
7	3DHGLDWULF DQG3HULQDWDO(SLGHP LRORJ\	&XUUHQW2 SLQLRQLQ3HGLDWULFV
	3HGLDWULF5KHXP DWRORJ\	(DUO + XP DQ' HYHORSP HQW
	%0 & 3HGLDWULFV	/ ³ ò Ý ~ ³ v
	1 HRQDWRORJ\	/ ¬ ~ ³ , • v
	3HGLDWULF3XOP RQRORJ\	/ ³ ¬ ~ ³ v
	3HGLDWULF1 HSKURORJ\	
7	3HGLDWULF,QIHFWRXV' LVHDVH-RXUQDO	3HGLDWULF&DUGLRORJ\

4Ýa	U @C0&	U @C0&
	$FWD3DHGLDWLFD	&OOQLFDO3HGLDWLFV
	3HGLDWLF1HXURORJ\	3HGLDWLF+HPDWRORJ\ DQG2QFRORJ\
	3HGLDWLF$QHVWKHVLD	3HGLDWLF(PHUJHQF\ &DUH
	3HGLDWLF'UXJV	-RXUQDORI 3HGLDWLF (QGRFULQRORJ\ 0HWDEROLVP
	(XURSHDQ-RXUQDORI 3HGLDWULFV	3HGLDWLF'HUPDWRORJ\
	3DHGLDWULFV &KLOG+HDOWK	, • ˜ ³ v
	3HGLDWULF5DGLRORJ\	/ ³ Ì ˜ „ W¤ 0
	$PHULFDQ-RXUQDORI 3HULQDWRORJ\	/ Ì ˜ ó ³ v

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4Ýa	U @C0&	U @C0&
7	5DGLRORJ\	(XURSHDQ-RXUQDORI 1XFOHDU0 HGLFLQH DQG0 RODFXODU,PDJLQJ
	(XURSHDQ5DGLRORJ\	-RXUQDORI 1XFOHDU0 HGLFLQH
	,QWHUQDWLRQDO5DGLRORJ\	5DGLRJUDSKLFV
	$PHULFDQ-RXUQDORI 5RHQWJHQRORJ\	1HXURLP DJH
	-$&& &DUGLRYDVFXODU,PDJLQJ	+XP DQ%UDLQ0 DSSLQJ
	-RXUQDORI 0DJQHWF5HVRQDQFH,PDJLQJ	0 DJQHWF5HVRQDQFHLQ0 HGLFLQH
7	$PHULFDQ-RXUQDORI 1HXURUDGLRORJ\	1HXURUDGLRORJ\
	/ Â } 0 v	/ 1 ' õ ¾0 v
	&LUFXODWRQ&DUGLRYDVFXODU,PDJLQJ	5DGLRWHUDS\ DQG2QFRORJ\
	(XURSHDQ-RXUQDORI 5DGLRORJ\	0 DJQHWF5HVRQDQFH,PDJLQJ
	-RXUQDO RI &DUGLRYDVFXODU 0 DJQHWF5HVRQDQFH	&OOQLFDO5DGLRORJ\
	%UDLQ-RXUQDO 5DGLRORJ\	/ â ¤ 0 0 Ó• õ ¾v
7	. RUHDQ-RXUQDORI 5DGLRORJ\	$EGRPLQDO,PDJLQJ
	-RXUQDO RI 7KH $PHULFDQ &RONJH RI 5DGLRORJ\	/ ³ ¤ 0 õ ¾• ì
	/ Â } 6 Ÿ 0 v	3HGLDWULF5DGLRORJ\
	&DQFHU,PDJLQJ	8 OWUDVRXQGLQ0 HGLFLQHDQG%LRORJ\
	$FDGHPLF5DGLRORJ\	, • Â } 0 v
	5DGLRORJLF&OOQLFVRI 1RUWK$PHULFD	/ Â } ¤ 0 0 ½ v
	-RXUQDO RI &RPSXWHU $VVLVWHG 7RPRJUDSK\	¬ Â } 0 v
	$FDG5DGLRJLFD	& Â } 0 v
	&OOQLFDO,PDJLQJ	/ ³ ¤ 0 õ ¾0 v
	-RXUQDORI 1HXURUDGLRORJ\	Â } 0 ¬ Ì
	0 DJQHWF5HVRQDQFH ,PDJLQJ &OOQLFVRI 1RUWK$PHULFD	¨ k ò N ¾
		³ • ¤ 0 Â } 0 v

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4Ýa	U @C0&	U @C0&
7	-$0 $ 2 VRODU QJRORJ\ +HDG 1HFN 6XUJHU	2 VRODU QJRORJ\ +HDG DQG 1HFN 6XUJHU
	/ DU QJRVFRSH	2 VRORJ\ 1HXURVRORJ\
	+HDULQJ 5HVHDUFK	/ ™• S È @ó ³ v
	5KLQRORJ\	(DUDQG+HDULQJ
7	: RUOG -RXUQDO RI 2 VRUKLQRODU QJRORJ\ +HDG DQG 1HFN 6XUJHU	,QVHUQDWRQDO IRUXP RI $ COHUJ\ 5KLQRORJ\
	-RXUQDO RI 2 VRODU QJRORJ\ +HDG 1HFN 6XUJHU	, • ™• S È @ó ³ v
	$ P HULFDQ-RXUQDO RI 5KLQRORJ\ $ COHUJ\	/ ™³ 0 v
	(XURSHDQ $ UFKLYHV RI 2 VR 5KLQR / DU QJRORJ\	-$ 5 2 -RXUQDO RI 7KH $ VVRFLDWRQ IRU 5HVHDUFK LQ 2 VRODU QJRORJ\
	&OLQLFDO 2 VRODU QJRORJ\	
7	2 VRODU QJRORJLF &OLQLFVRI 1 RUWK $ P HULFD	2 5/ -RXUQDO IRU 2 VR 5KLQR / DU QJRORJ\ +HDG DQG 1HFN 6XUJHU
	$ P HULFDQ-RXUQDO RI 2 VRODU QJRORJ\	$ FWD 2 VR / DU QJRORJLFD
	° O 0 ƒ] 4 …È v	(XURSHDQ $ QQDOV RI 2 VRUKLQRODU QJRORJ\ +HDG DQG 1HFN ' LVHDVHV
	$ QQDOV RI 2 VRORJ\ 5KLQRORJ\ DQG / DU QJRORJ\	&XUUHQW 2 SLQLRQ LQ 2 VRODU QJRORJ\ +HDG DQG 1HFN 6XUJHU
	+HDG DQG 1HFN -RXUQDO IRU 7KH 6FLHQFHV DQG 6SHFLDOWHV RI 7KH +HDG DQG 1HFN	-RXUQDO RI 9 RLFH
	,QVHUQDWRQDO -RXUQDO RI 3HGLDWULF 2 VRUKLQRODU QJRORJ\	-RXUQDO RI 7KH $ P HULFDQ $ FDGHP \ RI $ XGLRORJ\
	V J Ö 0 ™• d 0 q	-RXUQDO RI 9 HVWEXODU 5HVHDUFK (TXLOEULXP 2 ULHQWDWRQ
	$ XGLRORJ\ DQG 1HXUR 2 VRORJ\	-RXUQDO RI / DU QJRORJ\ DQG 2 VRORJ\
	$ P HULFDQ-RXUQDO RI $ XGLRORJ\	,QVHUQDWRQDO-RXUQDO RI $ XGLRORJ\

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4Ýa	U @C0&	U @C0&
7	$ P HULFDQ-RXUQDO RI 2 SKWKDOP RORJ\	3URJUHVV LQ 5HWQDODQG (\ H 5HVHDUFK
	%ULWWK -RXUQDO RI 2 SKWKDOP RORJ\	/ d ³ v
	,QYHVWJDWYH 2 SKWKDOP RORJ\ 9 LVXDO 6FLHQFH	([SHULP HQWDO (\ H 5HVHDUFK

4Ýa	U @C0&	U @C0&
	-$ 0 $ 2 SKVKDOP RORJ\	&OQLFDO DQG ([SHULP HQWDO 2 SKVKDOP RORJ\
	2 SKVKDOP RORJ\	
7	2 FXODU,P P XQRORJ\ DQG,QIODP P DWRQ	5 HWQD 7 KH -RXUQDO RI 5 HWQDO DQG 9 HWHRXV' LVHDVHV
	&XUUHQW(\ H5 HVHDUFK	$ FWD2 SKVKDOP RORJ LFD
	-RXUQDORI &DWDUDFWDQG5 H UDFWYH6XUJHLV	* UDH HV $ UFKLYH) RU &OQLFDO DQG ([SHULP HQWDO2 SKVKDOP RORJ\
	-RXUQDORI * ODXFRP D	(\ H DQG9 LVLRQ
	2 FXODU6XUJDFH	-RXUQDORI 5 H UDFWYH6XUJHLV
7	/ ¬ r d ³ v	%0 & 2 SKVKDOP RORJ\
	&XUUHQW2 SLQLRQ LQ2 SKVKDOP RORJ\	&RUQHD
	0 ROHFXODU9 LVLRQ	$ QQXDO5 HYLHZ RI 9 LVLRQ6FLHQFH
	2 SKVKDOP LF5 HVHDUFK	(\ H
	9 LVLRQ5 HVHDUFK	,QWHUQDWRQDO-RXUQDORI 2 SKVKDOP RORJ\
	/ d È v	2 SKVKDOP RORJ LFD
	/ d ³ ¤ 0 v (• Q	2 SWRP HWU DQG9 LVLRQ6FLHQFH
	/ d Ê › ƒ Ê „ ³ 0 v	6XUYH\ RI 2 SKVKDOP RORJ\
	/ d ó d œd È v	7UDQVODWRQDO 9 LVLRQ 6FLHQFH 7HFKQRORJ\

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4Ýa	U @C0&	U @C0&
7	&KHWW	3HGLDWUF 3XOP RQRORJ\
	(XURSHDQ5 HVSLUDWRU -RXUQDO	6DUFRLGRVLV9 DVFXODUV DQG ' LLI XVH / XQJ ' LVHDVHV
	7KRUD[	&DQDGLDQ5 HVSLUDWRU -RXUQDO
	$ P HULFDQ -RXUQDO RI 5 HVSLUDWRU DQG &UWWFDO&DUH0 HGLFLQH	/ â ä k v
	/ DQFHW5 HVSLUDWRU 0 HGLFLQH	
7	$ P HULFDQ-RXUQDORI 5 HVSLUDWRU &HOODQG 0 ROHFXODU%LRORJ\	-RXUQDORI + HDUWDQG/ XQJ 7UDQVSODQWDWRQ
	-RXUQDORI $ VWKP D	$ QQDOVRI 7KRUDFLF6XUJHLV
	6OHHS DQG%UHDWKLQJ	(XURSHDQ-RXUQDORI &DUGLR 7KRUDFLF 6XUJHLV
	$ P HULFDQ -RXUQDO RI 3K\ VLRORJ\ / XQJ &HOOXODUDQG0 ROHFXODU3K\ VLRORJ\	6HP LQDUV LQ 5HVSLUDWRU DQG &UWWFDO &DUH0 HGLFLQH
7	³ • k v	-RXUQDORI 7KRUDFLF2 QFRORJ\
	/ ³ k 0 7 ³ v	5HVSLUDWRQ
	/ XQJ &DQFHU	/ XQJ
	5HVSLUDWRU 0 HGLFLQH	3XOP RQRORJ\
	,QWHUQDWRQDO -RXUQDO RI &KURQLF	([SHULP HQWDO/ XQJ 5HVHDUFK

4Ýa	U @C0&	U @C0&
	2 EWAVKFVAYH 3XOP RQDV ' LVHDVH	
	%0 & 3XOP RQDV 0 HGLFLQH	&XUUHQW2 SLQLRQ LQ 3XOP RQDV 0 HGLFLQH
	&OLQLFDO5 HVSLUDWRU -RXUQDO	,QWHUQDWRQDO-RXUQDORI 7XEHUFXORVLV DQG / XQJ ' LVHDVH
	-RXUQDORI 7KRUDFLF ' LVHDVH	+ HDUW / XQJ
	5HVSLURORJ\	3HGLDWUF $OHUJ\ ,P P XQRORJ\ DQG 3XOP RQRORJ\

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4Ýa	U @C0&	U @C0&
7	* DWWRHQWHURORJ\	$ P HULFDQ-RXUQDORI * DWWRHQWHURORJ\
	* XW	/ È $ v
	1 DWXUH 5HYLHZ V * DWWRHQWHURORJ\ + HSDWRORJ\	/) ƒ È v
	+ HSDWRORJ\	/ È $ • D v
	-RXUQDORI + HSDWRORJ\	/ È $ ó ³ v
	/ DQFHW* DWWRHQWHURORJ\ + HSDWRORJ\	
7	&OLQLFDO* DWWRHQWHURORJ\ DQG+ HSDWRORJ\	* XW0 LFUREHV
	$ OP HQWDV 3KDUP DFRORJ\ 7KHUDSHXWFV	-RXUQDORI ' LJHWWYH' LVHDVHV
	(QGRVFRS\	* DWWRHQWHURORJ\ 5HSRUW
	* DWWRLQWHWWQDO(QGRVFRS\	' + È 0
	-RXUQDORI &URKQV &RODWV	, •) é È v
	-RXUQDORI * DWWRHQWHURORJ\	/ ' + ó ³ v
7	,QIOP P DWRU %RZ HO LVHDVHV	1 HXURJ DWWRHQWHURORJ\ DQG 0 RWDWV
	/ LYHU,QWHUQDWRQDO	(QGRVFRSLF 8 OWDVRXQG
	+ HOFRED FWHU	/ ¯ ¦ È v
	+ HSDWRORJ\ ,QWHUQDWRQDO	/) é ó ³ v
	* DWWLF &DQFHU	/ T ¹ ó ³ v
	-RXUQDO RI * DWWRHQWHURORJ\ DQG + HSDWRORJ\	' + È 0 ä) È 0 v
	' LJHWWRQ	) ƒ
	&OLQLFDO DQG 7UDQVODWRQDO * DWWRHQWHURORJ\	¬) ƒ È v
	3DQFUHDWRORJ\	+ ó 0 + • ï •
	-RXUQDO RI 1 HXURJ DWWRHQWHURORJ\ DQG 0 RWDWV	/ ³ T ¹ ó ³ v
	7KHUDSHXWF $ GYDQFHV LQ* DWWRHQWHURORJ\	³ • È $ È v
	/ LYHU7 UDQVSODQWDWRQ	

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4Ýa	U @C0&	U @C0&
7	1 DVXUH5 HYLHZ V1 HXURVFLHQFH	6OHHS0 HGLFLQH5 HYLHZ V
	/ DQFHW1 HXURORJ\	1 HXUR 2 QFRORJ\
	1 DVXUH5 HYLHZ V1 HXURORJ\	$ QQDOVRI 1 HXURORJ\
	$ FVD1 HXURSDWKRORJLFD	1 HXURORJ\
	%HKDYLRUDODQG%UDLQ6FLHQFHV	-RXUQDORI 1 HXURORJ\ 1 HXURVXUJHLV DQG 3V\FKLDWV
	7UHQGVLQ&RJQLWLYH6FLHQFHV	1 HXURSDWKRORJ\ DQG $SSOLHG 1 HXURELRORJ\
	$ QKHLP HLV ' HP HQWD	6WURNH
	-$0 $ 1 HXURORJ\	3URJUHVVLQ1 HXURELRORJ\
	%UDLQ	
7	3DLQ	1 HXURVFLHQFH%XOOHWQ
	7UDQVODWRQDO6WURNH5HVHDUFK	-RXUQDORI 1 HXURORJ\
	-RXUQDORI 1 HXURLQIODP P DWRQ	-RXUQDORI 1 HXURVXUJHLV
	-RXUQDORI 6WURNH	1 HXUDO5 HJHQHUDWRQ5 HVHDUFK
	(SLOHSVLD	/ Š < ³ v
	7UDQVODWRQDO1 HXURGHJHQHUDWRQ	/ Š < ó ³ v
	1 HXURVXUJHLV	&KLQHVH1 HXURVXUJLFDO-RXUQDO
	69 1 6WURNHDQG9 DVFXODU1 HXURORJ\	-RXUQDORI 1 HXURVFLHQFH
	,QWHUQDWRQDO-RXUQDORI 6WURNH	-RXUQDO RI &HUHEUDO %ORRG) ORZ DQG 0 HWDERODVP
	(XURSHDQ-RXUQDORI 1 HXURORJ\	$ FVD1 HXURSDWKRORJLFD&RP P XQLFDWRQV
7	&OLQLFDO1 HXURSK\ VLRORJ\	%UDLQ DQG%HKDYLRU
	-RXUQDORI 1 HXURWUDXP D	: RUOG1 HXURVXUJHLV
	6OHHS0 HGLFLQH	&OLQLFDO1 HXURORJ\ DQG1 HXURVXUJHLV
	$ P HULFDQ-RXUQDORI 1 HXURUDGLRORJ\	%UDLWK-RXUQDORI 1 HXURVXUJHLV
	-RXUQDORI 1 HXUR 2 QFRORJ\	/ û ¤ 0 0 —³ 0 v
	-RXUQDORI 1 HXURVXUJHLV 6SLQH	&RJQLWLYH DQG%HKDYLRUDO1 HXURORJ\
	%UDLQ5 HVHDUFK	/ - ï —3 • È v
	1 HXURVXUJLFDO) RFXV	/ ³ —3 • È v
	&HUHEURYDVFXODU' LVHDVHV	/ ³ Š < : Š …È v
	1 HXURP RGXODWRQ	/ Š < ¤ 0 v
	) URQWHLVLQ1 HXURORJ\	&OLQLFDO1 HXURSDWKRORJ\
	1 HXURFULWFDO&DUH	1 HXURVFLHQFHV
	1 HXURVXUJLFDO5 HYLHZ	/ ³ ¡ / v
	1 HXURUDGLRORJ\	³ • Š < È 0 Š < ó ³ 0 v
	(SLOHSV\ %HKDYLRU	/ ³ ³ { Š < ó ³ v
	%0 & 1 HXURORJ\	, • Š < ó ³ v
	-RXUQDORI 1 HXURVXUJHLV 3HGLDWULFV	

E ½Ý0 œ0 ¶ U @<4Ý-$ ‹ F

4Ýa	U @C0&	U @C0&
7	$P HUFDQ -RXUQDO RI 2EVWHWULFV DQG * \QHFRORJ\	%2* $Q ,QWHUQDWLRQDO -RXUQDO RI 2EVWHWULFV DQG* \QHFRORJ\
	) HWDOV DQG 6\VWHPDWLFV	2EVWHWULFV DQG* \QHFRORJ\
	* \QHFRORJLF 2QFRORJ\	/ ! ³ v
	+ XP DQ 5HSURGXFWLRQ	5HSURGXFWLRQ
7	0 RGHUQ+ XP DQ 5HSURGXFWLRQ	3DFHQWD
	-RXUQDO RI * \QHFRORJLF 2QFRORJ\	5HSURGXFWLYH %LRP HGLFLQH2 QOLQH
7	0 HQRSDXVH 7KH -RXUQDO RI 7KH 1 RUWK $P HULFDQ0 HQRSDXVH6RFLHW\	%LRORJ\ RI 5HSURGXFWLRQ
	0 DWXULWDV	/ ³ ¬ ³ 0 ! ³ v
	&RQWUDFHSWLRQ	
7	/ “ 0 ¥ s v	6HP LQDU\LQ3HULQDWRORJ\
	-RXUQDO RI 0 LQLP DOO ,QYDVLYH * \QHFRORJ\	¬ ! ³ v
	/ ! ¤ 0 v	3UHQDWDO LDJQRVLV
	&XUUHQW 2SLQLRQ LQ 2EVWHWULFV * \QHFRORJ\	-RXUQDO RI 5HSURGXFWLYH,P P XQRORJ\
	&OP DFWHUF	,QWHUQDWLRQDO -RXUQDO RI * \QHFRORJLFDO 3DWKRORJ\
	£ Ý ! ³) º	,QWHUQDWLRQDO -RXUQDO RI * \QHFRORJLFDO &DQFHU
	,QWHUQDWLRQDO -RXUQDO RI * \QHFRORJ\ 2EVWHWULFV	“ ¤ 0 v
	5HSURGXFWLYH %LRORJ\ DQG(QGRFULQRORJ\	³ • ! ³ 0 v

E6õ,Z œ0 ¶ U @<4Ý-$ ‹ F

4Ýa	U @C0&	U @C0&
7	/ DQFHU2 QFRORJ\	&DQFHU&HOO
	&OLQLFDO&DQFHU5HVHDUFK	&DQFHU' LVFRYHU\
	-RXUQDO RI &OLQLFDO2 QFRORJ\	0 RGHUQ&DQFHU
	&D$ &DQFHU-RXUQDO RU&OLQLFDO	2QFRJHQH
	1DWXUH5HYLHZV&DQFHU	/ 6 Ÿ v
	1DWXUH5HYLHZV&OLQLFDO2 QFRORJ\	&KLQHVH-RXUQDO RI &DQFHU5HVHDUFK
	$QQDOV RI 2QFRORJ\	&DQFHU%LRORJ\ 0 HGLFLQH
	-$0 $ 2QFRORJ\	&DQFHU&RP P XQLFDWLRQV IRUP HUVWZH! &KLQHVH-RXUQDO RI &DQFHU
	&DQFHU5HVHDUFK	
7	6HP LQDU\LQ&DQFHU%LRORJ\	&DQFHU,P P XQRORJ\ 5HVHDUFK
	/ HXNHP LD	-1 &, -RXUQDO RI 7KH 1DWLRQDO &DQFHU ,QVWLWXWH

4Ýa	U @C0&	U @C0&
	&DQFHU	&DQFHU/ HWWLV
	(XURSHDQ-RXUQDORI &DQFHU	%UMWK-RXUQDORI &DQFHU
	-RXUQDORI 7KRUDFLF 2 QFRORJ\	%UHDVW&DQFHU5 HVHDUFK
	1 HXUR 2 QFRORJ\	&DQFHU7 UHDWPHQW5 HYLHZ V
	6WP &HOOV	/ ³ 6 Ÿ , •
	-RXUQDORI + HP DWRORJ\ 2 QFRORJ\	
7	, • 6 Ÿ 0 v	-RXUQDOI RU,P P XQRWKHUDS\ RI &DQFHU
	-RXUQDORI 3DWKRORJ\	/ ³ 6 Ÿ
	&DQFHUDQG0 HWDVWDVLV5 HYLHZ V	/ ³ Ë v
	/ ³ v	2 QFRORJ LVW
	,QWHUQDWRQDO -RXUQDO RI 5DGLDWRQ 2 QFRORJ\ %LRORJ\ 3K\ VLFV	&DQFHU6FLHQFH
	/ 6 Ÿ ½- v	-RXUQDORI 7KH 1 DWRQDO&RP SUHKHQVLYH &DQFHU1 HWZ RUN
	/ Â } 6 Ÿ 0 v	&DQFHU (SLGHP LRORJ\ %LRP DUNHUV 3UHYHQWRQ
	0 ROHFXODU 2 QFRORJ\	-RXUQDO RI ([SHULP HQWDO &OLQLFDO &DQFHU5 HVHDUFK
	$ QQDOVRI 6XUJLFDO2 QFRORJ\	2 QFRLP P XQRORJ\
	2 QFRORJ\ DQG7 UDQVODWRQDO0 HGLFLQH	¬ 6 Ÿ 0 v
	/ ³ 6 Ÿ “ ^ - o v	0 ROHFXODU&DQFHU7 KHUDSHXWFV
	6 Ÿ	2 QFRJ HQHVLV
	¬ 6 Ÿ v	,QWHUQDWRQDO-RXUQDORI &DQFHU
	&DQFHUV	%ORRG&DQFHU-RXUQDO
	7 UHQGVLQ&DQFHU	(-62

E' Z L 0 œ0 ¶ U @<4Ý-$ ‹ F

4Ýa	U @C0&	U @C0&
7	$ QQDOVRI 6XUJHUV	$ QQDOVRI 3ODVWF6XUJHUV
	%XUQVDQG7 UDXP D	$ P HULFDQ-RXUQDORI 6XUJHUV
	: RXQG5 HSDLUDQG5 HJHQHUDWRQ	0 LFURVXUJHUV
	%XUQV	$ P HULFDQ -RXUQDO RI (P HUJHQF\ 0 HGLFLQH
	3ODVWF DQG5 HFRQVWUKFWLYH6XUJHUV	
7	-RXUQDO RI 3ODVWF 5HFRQVWUKFWLYH DQG $ HVWKHWF6XUJHUV	-RXUQDORI 5HFRQVWUKFWLYH0 LFURVXUJHUV
	/ n d v	-RXUQDO RI 7LVVXH (QJLQHHULQJ DQG 5HJHQHUDWLYHP HGLFLQH
	/ ü ù ó ³ v	,QWHUQDWRQDO-RXUQDORI / RZ HU([WHP LVV Z RXQGV
	-RXUQDORI %XUQ&DUH DQG5 HVHDUFK	-RXUQDORI 6XUJLFDO5 HVHDUFK
	: RXQGV$ &RP SHQGLXP RI &OLQLFDO	,QMXU ,QWHUQDWRQDO-RXUQDORI 7KH &DUH

4Ýa	U @C0&	U @C0&
	5 HV-DUFK DQG 3 UDFWLFH	RI 7 KH, QWXUHG
7	-RXUQDORI &RVP HWLF DQG/ DVHU 7 KHUDS\	-RXUQDO RI 3 ODVWLF 6 XUJHU\ DQG + DQG 6 XUJHU\
	(XURSHDQ &HOOV 0 DVHUDOV	$ GYDQFHV LQ: RXQG &DUH
	%LRP DVHUDOV	5 HJHQHUDWLYH 0 HGLFLQH
	/ —d v	,QVHUQDWLRQDO -RXUQDO RI &OLQLFDO DQG ([SHULP HQWDO 3 DWKRORJ\
	/ ³ ô ù ó ³ v	%ULWLVK -RXUQDORI 6 XUJHU\
	/ ³ 7 Ù ó ³ v	-RXUQDORI 7 LVVXH(QJLQHHULQJ
	' HUP DWRORJLF 6 XUJHU\	,QVHUQDWLRQDO RXQG -RXUQDO
	-RXUQDO RI 2 UWKRSDHGLF 6 XUJHU\ DQG 5 HV-DUFK	-RXUQDORI &RVP HWLF ' HUP DWRORJ\
	$ HVWKHWLF 3 ODVWLF 6 XUJHU\	3 ODVWLF 6 XUJHU\

E ª ˜ L 0 œ0 ¶ U @<4Ý-$ ‹ F

4Ýa	U @C0&	U @C0&
7	3 ODVWLF DQG 5 HFRQVWUXFWLYH 6 XUJHU\	-RXUQDORI 3 ODVWLF 5 HFRQVWUXFWLYH DQG $ HVWKHWLF 6 XUJHU\
	/ ü ù ó ³ v	$ QQDOVRI 3 ODVWLF 6 XUJHU\
	$ HVWKHWLF 6 XUJHU\ -RXUQDO	/ n d v
7	&OLQLFVLQ 3 ODVWLF 6 XUJHU\	-RXUQDORI 7 LVVXH(QJLQHHULQJ DQG 5 HJHQHUDWLYH 0 HGLFLQH
	¦] Q 0 7 Ù ó ³ v	-$ 0 $) DFLDO 3 ODVWLF 6 XUJHU\
	-RXUQDORI 7 LVVXH(QJLQHHULQJ	/ ³ 7 Ù ó ³ v
	-RXUQDORI &UDQLRI DFLDO 6 XUJHU\	-RXUQDORI 5 HFRQVWUXFWLYH 0 LFURVXUJHU\
	0 LFURVXUJHU\	&OHVV 3 DODVH &UDQLRI DFLDO -RXUQDO
7	/ ³ % ü ù ó ³ v	$ UFKLYHVRI) DFLDO 3 ODVWLF 6 XUJHU\
	) DFLDO 3 ODVWLF 6 XUJHU\	&DQDGLDQ -RXUQDORI 3 ODVWLF 6 XUJHU\
	-RXUQDORI &RVP HWLF DQG/ DVHU 7 KHUDS\	/ ¤ 0 %0 % v

E L 0 œ52 >0 ¶ U @<4Ý-$ ‹ F

4Ýa	Å -	U @C0&	, 661	&1
7		$0 (5,&$1 -2851$/ 2) 75$163/ $17$7,21		
		11/ 6 2) 685* (5<		
		%5,7,6+ -2851$/ 2) 685* (5<		
		(1' 26&23<	;	
		+(3$72%/ ,$5< 685* (5< $1' 1875,7,21		
		,17(51$7,21$/ -2851$/ 2) 685* (5<		
		-$0 $ 685* (5<		
		/ ,9(5 75$163/ $17$7,21		

4Ýa	Å -	U @C0&	, 661	&1
		685*(5<		
		75$163/$17$7,21		
		$&7$257+23$(',&$		
		$0(5,&$1-2851$/2)632576 0(',&,1(		
		-2851$/2)63257$1'+($/7+ 6&,(1&(		
		%ƃ5,7,6+-2851$/2)632576 0(',&,1(		
		63,1(		
		$1(67+(6,2/2*<		
		%ƃ5,7,6+-2851$/2)$1$(67+(6,$		
		(8523($1852/2*<		
		-2851$/2)852/2*<		
		%ŕ8,17(51$7,21$/		
		/ ³ ¬ ó ³ v		5
		/ ó ³ v		5
		/ È$ó ³ v		5
		/ '+ó ³ v		5
		/ € ³ v		5
		/ —d € ³ v		5
		/ ?µó ³ v		5
		/ v ’ - v		5
7		-2851$/2)9$6&8/$5685*(5<		
		$0(5,&$1-2851$/2)685*(5<		
		$0(5,&$1-2851$/2)685*,&$/ 3$7+2/2*<		
		11/62)685*,&$/21&2/2*<		
		11/62)7+25$&,&685*(5<		
		$57+526&23<7+(-2851$/2) $57+526&23,&$1'5(/$7(' 685*(5<		
		%ƒ21(-2,17-2851$/		
		',*(67,9((1'26&23<		
		(8523($1-2851$/2)9$6&8/$5 $1'(1'29$6&8/$5685*(5<		
		-$0$272/$5<1*2/2*<+($' 1(&.685*(5<		
		-2851$/2)%ƒ21($1'-2,17 685*(5<$0(5,&$192/80(		
		-2851$/2)1(852685*(5<		
		-2851$/2)7+($0(5,&$1&2//(*(2)685*(216		
		1(852685*(5<	;	
		:25/'-2851$/2)(0(5*(1&< 685*(5<		
		:25/'-2851$/2)685*,&$/ 21&2/2*<		
		(8523($163,1(-2851$/		
		)227$1'$1./(685*(5<		
		-2851$/2)$57+523/$67<		

4Ýa	Å -	U @C0&	, 661	&1
		-2851$/ 2) 257+23$(' ,& 632576 3+<6,&$/ 7+(5$3<		
		,17(51$7,21$/ 257+23$(' ,&6		
		6325760(' ,&,1(		
		6&$1' ,1$9,$1 -2851$/ 2) 0(' ,&,1(6&,(1&(,1 632576		
		-2851$/ 2) $7+/(7,&75$,1,1*		
		(;(5&,6($1' 63257 6&,(1&(6 5(9,(: 6		
		63,1(-2851$/		
		-2851$/ 2) 3+<6,27+(5$3<		
		1(67+(6,$		
		3$,1		
		852/2*<		
		35267$7(		
		: 25/' -2851$/ 2) 852/2*<		
		-2851$/ 2) (1' 2852/2*<		
		75$1631$17$7,21 5(9,(: 6	;	
		1(3+52/2*<',$/<6,6 75$1631$17$7,21		
		/ ³ T ¹ ó ³ v		5
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		/ Tó³Íì0v (•Q		5
		/ T ¹ ó ³ v	;	5
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		/ Íó³v	;	5
		,•ðª0v		5
		,•?µó³v		5
7		11/62) &$5' ,27+25$&,& 685*(5<	;	
		$6,$1 -2851$/ 2) 685*(5<		
		%623(1		
		&2/25(&7$/ ',6($6(		
		&855(17352%(06,1 685*(5<		
		',6($6(62) 7+(&2/21 5(&780		
		(-62		
		,17(51$7,21$/ -2851$/ 2) &20387(5$66,67(' 5$' ,2/2*< $1' 685*(5<		
		-2851$/ 2) *$6752,17(67,1$/ 685*(5<	;	
		-2851$/ 2) +($57$1' /81* 75$1631$17$7,21		
		-2851$/ 2) 1(852,17(59(17,21$/ 685*(5<		
		-2851$/ 2) 1(852/2*< 1(852685*(5<$1' 36<&+,$75<		
		-2851$/ 2) 1(852685*,&$/ $1(67+(6,2/2*<		
		-2851$/ 2) 6+28/'(5$1' (/%2: 685*(5<		
		-2851$/ 2) 685*,&$/ (' 8&$7,21		

4Ýa	Å -	U @C0&	, 661	&1
		-2851$/ 2) 7+($0(5,&$1 $&$' (0 < 2) 257+23$(' ,& 685*(216	;	
		-2851$/ 2) 9$6&8/$5 685*(5< 9(1286$1' /<03+$7,& ',625'(56	;	
		.1((685*(5< 632576 75$80$72/2*<$57+526&23<		
		2%(6,7< 685*(5<		
		6+2&.		
		685*(5<)25 2%(6,7<$1' 5(/$7(' ',6($6(6		
		685*,&$/(1' 26&23<$1' 27+(5 ,17(59(17,21$/ 7(&+1,48(6		
		7(&+1,48(6,1 &2/2352&72/2*<		
		:25/' -2851$/ 2) 685*(5<		
		%0&086&8/26.(/(7$/ ',625'(56		
		&/,1,&$/ %20(&+$1,&6		
		*$,7 326785(		
		-2851$/ 2) 257+23$(' ,&5(6($5&+		
		3+<6,&$/ 7+(5$3<,1 63257	;	
		-2851$/ 2) 7+(,17(51$7,21$/ 62&,(7< 2) 6325761875,7,21		
		-2851$/ 2) 6325766&,(1&(6		
		-2851$/ 2) 675(1*7+ $1' &21',7,21,1* 5(6($5&+		
		-2851$/ 2) 6&,(1&($1' 0(',&,1(,1 63257		
		,17(51$7,21$/ -2851$/ 2) 6325760(',&,1(		
		,17(51$7,21$/ -2851$/ 2) 6325763+<6,2/2*<$1' 3(5)250$1&(		
		(;(5&,6(,00812/2*<5(9,(:		
		(8523($1 -2851$/ 2) 63257 6&,(1&(		
		%2/2*<2) 63257	;	
		267(2$57+5,7,6$1' &$57,/$*(		
		-2851$/ 2) 3(' ,$75,& 257+23$(' ,&6		
		-2851$/ 2) 257+23$(' ,&75$80$		
		$1(67+(6,$ $1' 1/*(6,$		
		(8523($1 -2851$/ 2) 1(67+(6,2/2*<		
		-2851$/ 2) &/,1,&$/ $1(67+(6,$		
		5(*,21$/ $1(67+(6,$ $1' 3$,1 0(',&,1(		
		,17(51$7,21$/ -2851$/ 2) 852/2*<		
		75$16/$7,21$/ $1' 52/2*<$1' 852/2*<		
		35267$7(&$1&(5$1' 35267$7,& ',6($6(6		
		1(852852/2*<$1' 852'<1$0,&6		
		-2851$/ 2) 6(;8$/ 0(',&,1(		

4Ýa	Å -	U @C0&	, 661	&1
		(8523($1 852/2*<21&2/2*<		
		1$785(5(9,(: 6852/2*<		
		&855(17 23,1,21 ,1 25*$1 75$163/$17$7,21		
		(;3(5,0(17$/ $1' &/,1,&$/ 75$163/$17$7,21		
		/ ³ —ó ³ v		5
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		/ + ...È (• v		5
		) é ¯ ó ³ v		5
		/ € 0 ‘ ó ³ v		5
		/ ³ ŒX Œ= v	;	5
		, • € ³ v		5
		/ ‘ ó ³ v (• Q	;	5
		/ ð ª 0 v		5
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E j À q œD »0 œ52>0 ¶ U @<4Ý-$ ‹ F

4Ýa	Å -	U @C0&	, 661	&1
7		1(: (1*/$1' -2851$/ 2) 0(',&,1(		
		-0 -2851$/ 2) 7+($0(5,&$1 0(',&$/ $662&,$7,21		
		7+(/$1&(7		
		%0 - %5,7,6+ 0(',&$/ -2851$/	;	
		7+(/$1&(7 5(63,5$725< 0(',&,1(		
		$0(5,&$1 -2851$/ 2) 5(63,5$725< $1' &5,7,&$/ &$5(0(',&,1(	;	
		,17(16,9(&$5(0(',&,1(		
		-2851$/ 2) 75$9(/ 0(',&,1(		
		7+(/$1&(7',*,7$/ +($/7+		
		1$785(5(9,(: 6',6($6(35,0(56	;	
		11/62) ,17(51$/ 0(',&,1(		
		-0 ,17(51$/ 0(',&,1(		
		&5,7,&$/ &$5(		
		-2851$/ 2) &$&+(;,$ 6$5&23(1,$$1' 086&/(		
		$*,1* &(//		
		-2851$/ 2) ,17(51$/ 0(',&,1(		
		0,/,7$5< 0(',&$/ 5(6($5&+		
		(&/,1,&$/0(',&,1(		

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-2851$/
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)5217,(56 2) 0(' ,&,1(5
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/ 7 È „ W¤ 0 5
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$*($1' $*(,1*
$*,1* $1' ',6($6(
,0 0 81,7< $*(,1*
-0 1(7: 25. 23(1
$*(,1* 5(6($5&+ 5(9,(: 6
0$<2 &/,1,&352&((' ,1*6
75$16/$7,21$/ 5(6($5&+
&5,7,&$/ &$5(0(' ,&,1(
5(686&,7$7,21
(0(5*(1&,$6
-2851$/ 2) 7+($0(5,&$1
*(5,$75,&662&,(7<
,17(51$7,21$/ 36<&+2*(5,$75,&6
0(' ,&$/ -2851$/ 2) 8675/,$;
&2&+5$1(' 7%$6(2) ;
7 6<67(0$7,&5(9,(: 6
-2851$/ 2) ,17(16,9(&$5(
: 25/' -2851$/ 2) (0(5*(1&<
685*(5<
11/62) (0(5*(1&< 0(' ,&,1(
$0(5,&$1 -2851$/ 2) *(5,$75,&
36<&+,$75<
-2851$/ 2) 7+($0(5,&$1
0(' ,&$/ ' ,5(&7256$662&,$7,21
*(526&,(1&(
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ê 0 q ¤ 0 Q 5
/ 7 ¤ 0 v (• Q 5

		(; 3(5,0(17$/ '(50$72/2*<		
		,17(51$7,21$/ -2851$/ 2) '(50$72/2*<		
		$&7$ '(50$72 9(1(5(2/2*,&$		
		&/,1,&$/ $1' (; 3(5,0(17$/ '(50$72/2*<		
		-2851$/ 2) '(50$72/2*<		
		(8523($1 -2851$/ 2) '(50$72/2*<		
7		&217$&7 '(50$7,7,6		
		$0(5,&$1 -2851$/ 2) &/,1,&$/ '(50$72/2*<		
		'(50$72/2*<		
		'(50$7,7,6		
		0<&26(6		
		3,*0(17&(// 0(/$120$5(6($5&+		
		'(50$72/2*,&7+(5$3<		
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		/ ³ # ñ ÿ È 0 v		5
		¬ # ñ È 0 v		5

E>v#è+ûœ0 ¶ U @<4Ý-$ ‹ F

4Ýa	Å -	U @C0&	, 661	&1
7		%/22'		
		/$1&(7+$(0$72/2*<		
		/(8.(0,$		
		$0(5,&$1 -2851$/ 2) +(0$72/2*<		
7		%5,7,6+ -2851$/ 2) +$(0$72/2*<		
		+$(0$72/2*,&$		
		-2851$/ 2) +(0$72/2*< 21&2/2*<		
		%/22' $' 9$1&(6		
		%/22' &$1&(5 -2851$/		
		-2851$/ 2) 7+520%26,6$1' +$(0267$6,6		
		/ 3¡ 0 v		5
7		%21(0$552: 75$163/$17$7,21		
		7+520%26,6$1' +$(0267$6,6		
		75$163/$17$7,21$1' &(//8/$5 7+(5$3< %2/2*<2) %/22' $1' 0$552: 75$163/$17$7,21		
		(; 3(5,0(17$/ +(0$72/2*< 21&2/2*<		
		7+520%26,65(6($5&+		
		11/62) +(0$72/2*<		
		/(8.(0,$ /<03+20$		
		/(8.(0,$5(6($5&+		
		(8523($1 -2851$/ 2) +$(0$72/2*<		
		/ ³ ¬ r 3¡ 0 v		5
		, • 3¡ 0 v		5

		³ • Û 3 ƒ 3 ¡ 0 v	;	5

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4Ýa	Å -	U @C0&	, 661	&1
7		1$785(5(9,(: 61(3+52/2*<		
		. ,' 1(<,17(51$7,21$/		
7		-2851$/ 2) 7+($0(5,&$1 62&,(7< 2) 1(53+52/2*<		
		$0(5,&$1 -2851$/ 2) . ,' 1(< ' ,6($6(		
		&/,1,&$/ -2851$/ 2) 7+($0(5,&$1 62&,(7< 2) 1(3+52/2*<		
		1(3+52/2*< ' ,$/<6,6 75$163/$17$7,21		
		. ,' 1(<,17(51$7,211$/ 5(32576		
7		. ,' 1(<,17(51$7,21$/ 6833/(0(176		
		&/,1,&$/ . ,' 1(< -2851$/		
		$0(5,&$1 -2851$/ 2) 3+<6,2/2*< 5(1$/ 3+<6,2/2*<	;	
		/ • ƒ È v		5
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4Ýa	Å -	U @C0&	, 661	&1
7		/$1&(75+(80$72/2*<		
		1$785(5(9,(: 65+(80$72/2*<		
7		11/62) 7+(5+(80$7,&' ,6($6(6		
		$57+5,7,6 5+(80$72/2*<		
		5+(80$72/2*<		
7		$57+5,7,65(6($5&+ 7+(5$3<		
		6(0,1$56,1 $57+5,7,6$1' 5+(80$7,60		
		-2851$/ 2) 5+(80$72/2*<	;	
		/ ä ¡ È 0 v		5
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4Ýa	Å -	U @C0&	, 661	&1
7		$0(5,&$1 -2851$/ 2) 685*,&$/ 3$7+2/2*<		
		0 2' (51 3$7+2/2*<		
		/ È 8 0 v		5
		-2851$/ 2) 3$7+2/2*<		
7		$0(5,&$1 -2851$/ 2) 3$7+2/2*<		
		+,6723$7+2/2*<		

		3$7+2/2*<		
		$&7$ 1(8523$7+2/2*,&$		
		&$1&(5 &<723$7+2/2*<	;	
		$5&+,9(62) 3$7+2/2*< /$%25$725<0(',&,1(		
		,•0¬rÈ80v		5
		ðnÈ80v		5
7		+80$1 3$7+2/2*<		
		$0(5,&$1 -2851$/2) &/,1,&$/ 3$7+2/2*<		
		9,5&+2: 6$5&+,9		
		3$7+2/2*<5(6($5&+ $1' 35$&7,&(		
		%5$,1 3$7+2/2*<		
		-2851$/2) 02/(&8/$5',$*1267,&6		
		',$*1267,& 3$7+2/2*<		
		+,672/2*< $1' +,6723$7+2/2*<		
		',$*1267,& &<723$7+2/2*<		
		(1'2&5,1(3$7+2/2*<		
		,17(51$7,21$/ -2851$/2) *<1(&2/2*,&$/ 3$7+2/2*<		
		,•0È8v		5

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7		&/,1,&$/ &+(0,675<		
		&/,1,&$/ &+(0,675< $1' /$%25$725< 0(',&,1(		
		/ ¿r¤0v		5
7		&/,1,&$/ 0,&52%2/2*< $1' ,1)(&7,21	;	
		&/,1,&$/ ,1)(&7,286',6($6(		
		$'9$1&(6,1 &/,1,&$/ &+(0,675<		
		&/,1,&$ &+,0,&$ $&7$		
		,•¿rv	;	5
		¿r¤0		5
7		-2851$/2) &/,1,&$/ 0,&52%2/2*<		
		11/62) /$%25$725<0(',&,1(		
		-2851$/2) &+520$72*5$3+<$		
		,17(51$7,21$/ -2851$/2) /$%25$725< +(0$72/2*<		
		&/,1,&$/ %2&+(0,675<		
		$5&+,9(62) 3$7+2/2*< /$%25$725<0(',&,1(		
		³•¿r¤0v		5
		£Ý¿r¤0v		5

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	,(((&$ $ -RXUQDORI $ XVRP DWFD6LQLFD			Å %8 â 0 Å %] Q
	,(((7UDQVDFWRQVRQ $ XVRP DWF &RQWRO			Å %8 â 0 Å %] Q
	$ XVRP DWFD			Å %8 â 0 Å %] Q
	,(((7UDQVDFWRQVRQ $ XVRP DWRQ6FLHQFH DQG(QJLQHHULQJ			Å %8 â 0 Å %] Q
	6FLHQFH&KLQD ,QIRUP DWRQ6FLHQFHV	;		Å %8 â 0 Å %] Q
	,(((7UDQVDFWRQVRQ (YROXWRQDU\ &RP SXWDWRQ	;		f ´ - ¹ 0 & Ÿ , Ä
	,(((7UDQVDFWRQVRQ 3DWWUQ$ QDO\VLVDQG 0 DFKLQH,QWHOOJHQFH			f ´ - ¹ 0 & Ÿ , Ä
	,QIRUP DWRQ) XVLRQ			f ´ - ¹ 0 & Ÿ , Ä
	%LRVHQVRUV %LRHOHFWURQLFV			¿ • ì 0 ‘ N $ m"
	5HP RWH6HQVLQJ RI (QYLURQP HQW			¿ • ì 0 ‘ N $ m"
	3URJUHVVLQ$ HURVSDFH 6FLHQFHV			ý Ô c %ý 0 Å %
	$ SSOLHG(QHJ\			, Ä] Q
	(QHJ\ &RQYHUVLRQ DQG 0 DQDJHP HQW			, Ä] Q
	,(((7UDQVDFWRQVRQ 6P DUW ULG			, Ä] Q
	* HQRP H%LRORJ\	;		“ ^ ð o 0
	1 XFOHLF$ FLGV5 HVHDUFK			“ ^ ð o 0
	&HP HQWDQG&RQFUHWH 5HVHDUFK			r œð o $
	&KHP LFDO(QJLQHHULQJ -RXUQDO			r œð o $
	,(((7UDQVDFWRQVRQ ,QGXVWUDO,QIRUP DWFV			r œð o $
	2 SWFD			& Ÿ + 0 ‘ V Å %
	5 RERWFVDQG &RP SXWHU,QWHUDWHG 0 DQXI DFWXULQJ			o v 0 M , Ä
	$ SSOLHG0 DWKHP DWFDO	;		¿ ç ³ 0 0] Q

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	0 RGHOOQJ			
	$ GYDQFHVLQ2 SWFVDQG 3KRWRQLFV			~ æì
	,(((6LJQDO3URFHVVLQJ 0 DJD]LQH			~ æì
	,(((7UDQVDFWLRQV RQ $ IIHFWLYH&RP SXWLQJ			~ æì
	,(((9HKLFXODU 7HFKQRORJ\ 0 DJD]LQH			~ æì
	/ LJKW6FLHQFH $ SSOLFDWLRQV			~ æì
	3URFHHGLQJV R\ \WH ,(((			~ æì
	6P DOO			~ æì

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	&RQWURO(QJLQHHULQJ 3UDFWLFH			Å %8 â 0 Å %] Q
	,(((7UDQVDFWLRQV RQ &RQWURO6\ VWHP V 7HFKQRORJ\			Å %8 â 0 Å %] Q
	,(((7UDQVDFWLRQV RQ &\ EHUQHWLFV			Å %8 â 0 Å %] Q
	,QWHUQDWLRQDO-RXUQDO R 5REXVWDQG1 RQOLQHDU &RQWURO			Å %8 â 0 Å %] Q
	-RXUQDO R 2 SWLP L]DWLRQ 7KHRU\ DQG$ SSOLFDWLRQV			Å %8 â 0 Å %] Q
	-RXUQDO R 3URFHVV&RQWURO			Å %8 â 0 Å %] Q
	-RXUQDO R 7KH) UDQNOLQ ,QVWLWXWH			Å %8 â 0 Å %] Q
	1 RQOLQHDU $ QDO\VLV + \ EULG6\ VWHP V	;		Å %8 â 0 Å %] Q
	1 RQOLQHDU $ QDO\VLV 0 RGHOOQJ DQG &RQWURO			Å %8 â 0 Å %] Q
	1 RQOLQHDU \ QDP LFV	; ;		Å %8 â 0 Å %] Q
	6,$ 0 -RXUQDO R&RQWURO DQG2 SWLP L]DWLRQ			Å %8 â 0 Å %] Q
	7KH,QWHUQDWLRQDO-RXUQDO R ,QWHOOLJHQW&RQWURO DQG 6\ VWHP V			Å %8 â 0 Å %] Q
	/ ³ ³ 0 ! ð o ³ 0		73	Å %8 â 0 Å %] Q
	‘ N $ 0 q		73	Å %8 â 0 Å %] Q
	$ &0 7UDQVDFWLRQV RQ * UDSKLFV			f ´ - ¹ 0 & Ÿ , Ä
	$ &0 7UDQVDFWLRQV RQ ,QWHOOLJHQW6\ VWHP V DQG 7HFKQRORJ\			f ´ - ¹ 0 & Ÿ , Ä
	$ UWLFLDO,QWHOOLJHQFH			f ´ - ¹ 0 & Ÿ , Ä
	(QJLQHHULQJ $ SSOLFDWLRQV R\ $ UWLFLDO,QWHOOLJHQFH			f ´ - ¹ 0 & Ÿ , Ä
	+ XP DQ &RP SXWHU ,QWHUDFWLRQ			f ´ - ¹ 0 & Ÿ , Ä
	,(((7UDQVDFWLRQV RQ $ XGLR 6SHHFK DQG / DQJXDJH 3URFHVVLQJ			f ´ - ¹ 0 & Ÿ , Ä

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	,(((7UDQVDFWRQVRQ ,PDJH3URFHWLQJ			f ´ - ¹ 0 & Ÿ , Ä
	,(((7UDQVDFWRQVRQ . QRZ OHGJHDQG' DWD (QJLQHHULQJ			f ´ - ¹ 0 & Ÿ , Ä
	,(((7UDQVDFWRQVRQ 1HXUDO1HWZRUNVDQG / HDUQLQJ 6\ VWPV	;		f ´ - ¹ 0 & Ÿ , Ä
	,QWUQDWRQDO-RXUQDORI &RPSXWU9LVLRQ			f ´ - ¹ 0 & Ÿ , Ä
	,QWUQDWRQDO-RXUQDORI ,QWOQJHQW6\ VWPV	;		f ´ - ¹ 0 & Ÿ , Ä
	. QRZ OHGJH %DVHG 6\ VWPV			f ´ - ¹ 0 & Ÿ , Ä
	1HXUDO1HWZRUNV			f ´ - ¹ 0 & Ÿ , Ä
	1HXURFRPSXWQJ			f ´ - ¹ 0 & Ÿ , Ä
	3DWWUQ5HFRJQLWRQ			f ´ - ¹ 0 & Ÿ , Ä
	6,$0 -RXUQDORQ,PDJLQJ 6FLHQFHV			f ´ - ¹ 0 & Ÿ , Ä
	& Ÿ ³ 0 0 • ì		73	f ´ - ¹ 0 & Ÿ , Ä
	$&6 $SSOHG0 DWUDOV ,QWUDFHV			¿ • ì 0 ‘ N $ m"
	,((((OHFWRQ' HYLFH / HWWUV			¿ • ì 0 ‘ N $ m"
	,(((7UDQVDFWRQVRQ 5HODELOWV			¿ • ì 0 ‘ N $ m"
	,(((7UDQVDFWRQVRQ 6LJQDO3URFHWLQJ	;		¿ • ì 0 ‘ N $ m"
	,(((7UDQVDFWRQVRQ : LUHOHVV&RPPXQLFDWRQV			¿ • ì 0 ‘ N $ m"
	,((($60 (7UDQVDFWRQV RQ 0 HFKDW RQLFV	;		¿ • ì 0 ‘ N $ m"
	,6356 -RXUQDORI 3KRWRJUDPPHW DQG 5HPRWH6HQVLQJ			¿ • ì 0 ‘ N $ m"
	/ DERQD&KLS			¿ • ì 0 ‘ N $ m"
	5HODELOWV(QJLQHHULQJ DQG6\ VWP 6DIHW			¿ • ì 0 ‘ N $ m"
	5HPRWH6HQVLQJ			¿ • ì 0 ‘ N $ m"
	6HQVRUVDQG$FWXDWRUV %&KHPLFDO			¿ • ì 0 ‘ N $ m"
	6PDUW0 DWUDOVDQG 6WKFWXUHV	;		¿ • ì 0 ‘ N $ m"
	$HURVSDFH6FLHQFHDQG 7HFKQRORJ\			ý Ô c %ý 0 Å %
	* 36 6ROXWRQV			ý Ô c %ý 0 Å %
	* XLGDQFH 1DYLJDWRQDQG &RQWRO			ý Ô c %ý 0 Å %
	,(((* HRVFLHQFHDQG 5HPRWH6HQVLQJ / HWWUV	;		ý Ô c %ý 0 Å %
	,(((7UDQVDFWRQVRQ $HURVSDFHDQG(OHFWRQLF 6\ VWPV			ý Ô c %ý 0 Å %
	,(((7UDQVDFWRQVRQ * HRVFLHQFHDQG5HPRWH			ý Ô c %ý 0 Å %

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	6HQVLQJ			
	,((($60 (7UDQVDFWLRQV RQ0 HFKDWRQLFV			ý Ô c %ý 0 Å %
	-RXUQDORI * XLGDQFH &RQWRO DQG' \QDPLFV			ý Ô c %ý 0 Å %
	$ SSOLHG0 DWHP DWFVDQG &RP SXWDWLRQ			, Ä] Q
	&KDRV			, Ä] Q
	&RP SXWHUV ,QGXVWULDO (QJLQHHULQJ			, Ä] Q
	' HFLVLRQ6XSSRUW6\ VWHP V			, Ä] Q
	(XURSHDQ-RXUQDORI 2 SHUDWLRQDO5HVHDUFK			, Ä] Q
	,(((,QWHOOLJHQW 7UDQVSRUWDWLRQ6\ VWHP V 0 DJD] LQH			, Ä] Q
	,(((6\ VWHP V-RXUQDO			, Ä] Q
	,(((7UDQVDFWLRQV RQ %LRP HGLFDO&LUFXLWV DQG 6\ VWHP V			, Ä] Q
	,(((7UDQVDFWLRQV RQ &LUFXLWV DQG6\ VWHP V,			, Ä] Q
	,(((7UDQVDFWLRQV RQ ,QWHOOLJHQW7UDQVSRUWDWLRQ 6\ VWHP V			, Ä] Q
	,(((7UDQVDFWLRQV RQ 60 & 6\ VWHP V			, Ä] Q
	,QWHUQDWLRQDO-RXUQDORI %LX UFDWLRQ DQG&KDRV			, Ä] Q
	,QWHUQDWLRQDO-RXUQDORI 3URGXFWLRQ5HVHDUFK	;		, Ä] Q
	0 DQDJHP HQW6FLHQFH			, Ä] Q
	2 SHUDWLRQV5HVHDUFK	;		, Ä] Q
	7UDQVSRUWDWLRQ5HVHDUFK 3DUW$			, Ä] Q
	7UDQVSRUWDWLRQ5HVHDUFK 3DUW%			, Ä] Q
	7UDQVSRUWDWLRQ5HVHDUFK 3DUW&	;		, Ä] Q
	$ &6 6\ QWHWLF %LRORJ\			“ ^ ð o 0
	$ P HULFDQ-RXUQDORI + XP DQ* HQHWLFV			“ ^ ð o 0
	%LRLQ RUP DWFV			“ ^ ð o 0
	%P F* HQRP LFV			“ ^ ð o 0
	%UHLQJVLQ %LRLQ RUP DWFV			“ ^ ð o 0
	* HQRP H5HVHDUFK			“ ^ ð o 0
	* HQRP LFV			“ ^ ð o 0
	* HQRP LFV3URWHRP LFV %LRLQ RUP DWFV			“ ^ ð o 0
	-RXUQDORI %LRP HGLFDO ,QIRUP DWFV			“ ^ ð o 0
	-RXUQDORI VWH$ P HULFDQ			“ ^ ð o 0

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	0 HGLFDO,QIRUP DWLFV $ VVRFLDWLRQ	;		
	3/ R6 FRP SXWDWLRQDO ELRORJ\	;		“ ^ ð o 0
	3/ R6 JHQHWLFV			“ ^ ð o 0
	$ LFKH-RXUQDO			r œð o $
	&HP HQW &RQFUHWH &RP SRVLWHV			r œð o $
	&KHP LFDO(QJLQHHULQJ 6FLHQFH			r œð o $
	&RP SXWDWLV &KHP LFDO (QJLQHHULQJ			r œð o $
	(QHUJ\			r œð o $
	) URQWLHUVI &KHP LFDO&FLHQFHDQG (QJLQHHULQJ			r œð o $
	) XHO			r œð o $
	) XHO3URFHVVLQJ 7HFKQRORJ\			r œð o $
	+ \ GURP HDOOXJ\	;		r œð o $
	,(((7UDQVDFWLRQV 3RZ HU6\ VWHP V			r œð o $
	,(((7UDQVDFWLRQV RQ QGXVWU $ SSOLFDWLRQV			r œð o $
	,QWHUQDWLRQDO-RXUQDORI * UHQKRXVH* DV&RQWRO			r œð o $
	,QWHUQDWLRQDO-RXUQDORI 3URGXFWLRQ(FRQRP LFV			r œð o $
	0 LQHUDOV(QJLQHHULQJ			r œð o $
	3DWWHUQRORJ\			r œð o $
	3RZ GHU7HFKQRORJ\	;		r œð o $
	5HYLHZ VLQ&KHP LFDO (QJLQHHULQJ			r œð o $
	$ SSOLHG3K\ VLFV/ HWWHUV			& Ÿ + 0 ‘ V Å %
	,(((7UDQVDFWLRQV RQ &RQWURO 1 HWZRUN 6\ VWHP V			& Ÿ + 0 ‘ V Å %
	,(((7UDQVDFWLRQV RQ 9 LVXDOL]DWLRQ DQG &RP SXWHU* UDSKLFV			& Ÿ + 0 ‘ V Å %
	2 SWLFV([SUHVV			& Ÿ + 0 ‘ V Å %
	2 SWLFV/ HWWHUV			& Ÿ + 0 ‘ V Å %
	,(((5RERWLFV DQG $ XWRP DWLRQ0 DJD] LQH			o v 0 M , Ä
	,(((7UDQVDFWLRQV RQ 5RERWLFV			o v 0 M , Ä
	,QWHUQDWLRQDO-RXUQDORI 5RERWLFV5HVHDUFK			o v 0 M , Ä
	-RXUQDORI) LHOG5 RERWLFV			o v 0 M , Ä
	%XLOGLQJ 6LP XODWLRQ			¿ ç ³ 0 0] Q

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	&RP P XQLFDWRQVLQ 1 RQOLQH6FLHQFHDQG 1 XP HULFDO6LP XODWRQ			¿ ç ³ 0 0] Q
	&RP SOH[6\VWHP 0 RGHOLQJ DQG6LP XODWRQ			¿ ç ³ 0 0] Q
	-RXUQDORI &RP SXWDWRQDO DQG$ SSOLHG0 DWKHP DWLFV			¿ ç ³ 0 0] Q
	-RXUQDORI &RP SXWDWRQDO 3K\VLFV			¿ ç ³ 0 0] Q
	0 DWKHP DWLFDO0 RGHOLQJ RI 1 DWXUDO3KHQRP HQD			¿ ç ³ 0 0] Q
	0 DWKHP DWLFDO0 RGHOVDQG 0 HWKRGV1LQ$ SSOLHG 6FLHQFHV			¿ ç ³ 0 0] Q
	0 DWKHP DWLFVDQG &RP SXWDWLV1LQ6LP XODWRQ			¿ ç ³ 0 0] Q
	0 XOWLVFDOH0 RGHOLQJ 6LP XODWRQ			¿ ç ³ 0 0] Q
	6,$0 -RXUQDORQ 6FLHQWLF&RP SXWLQJ			¿ ç ³ 0 0] Q
	6LP XODWRQ0 RGHOLQJ 3UDFWLFHDQG7KHRU\	;		¿ ç ³ 0 0] Q
	7KH-RXUQDORI ' HHQVH 0 RGHOLQJ DQG6LP XODWRQ			¿ ç ³ 0 0] Q
	™8 o 0 q		73	¿ ç ³ 0 0] Q
	, Ä ¿ ç 0 q	;	&1 9	¿ ç ³ 0 0] Q
	$&6 3KRWRQLFV			˜ æì
	$XWRP DWRQLQ &RQWUKFWRQ			˜ æì
	&HUHEUDO&RUWH[			˜ æì
	&KLQHVH6FLHQFH%XOOHWLQ	;		˜ æì
	(QJLQHHULQJ			˜ æì
	([SHUW6\VWHP VZLWK $ SSOLFDWLRQV			˜ æì
	) X]]\ 6HVVDQG6\VWHP V			˜ æì
	+ XP DQ%UDLQ0 DSSLQJ			˜ æì
	,(((&RP SXWDWRQDO ,QWHOOLJHQFH0 DJD]LQH	;		˜ æì
	,(((-RXUQDORI 6HOHFWHG $UHDLQ&RP P XQLFDWRQV			˜ æì
	,(((-RXUQDORI 6HOHFWHG 7RSLFVLQ6LJQDO 3URFHVVLQJ			˜ æì
	,(((7UDQVRQ(QHUJ\ &RQYHUVLRQ			˜ æì
	,(((7UDQVDFWLRQVRQ %LRP HGLFDO(QJLQHHULQJ			˜ æì
	,(((7UDQVDFWLRQVRQ &LUFXLWVDQG6\VWHPV IRU 9 LGHR7HFKQRORJ\			˜ æì
	,(((7UDQVDFWLRQVRQ &RJQLWLYHDQG ' HYHORSP HQWDO6\VWHP V			˜ æì
	,(((7UDQVDFWLRQVRQ &RP SXWDWLRQDO6RFLDO 6\VWHP V	;		˜ æì

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	,(((7UDQVDFWRQV/RQ) X]]\ 6\VWHPV			~ æì
	,(((7UDQVDFWRQV/RQ ,QGXVWULDO(OHFWURQLFV			~ æì
	,(((7UDQVDFWRQV/RQ ,QIRUP DWRQ) RUHQVLFVDQG 6HFXULWV			~ æì
	,(((7UDQVDFWRQV/RQ ,QIRUP DWRQ7KHRU			~ æì
	,(((7UDQVDFWRQV/RQ 0 HGLFDO,P DJLQJ			~ æì
	,(((7UDQVDFWRQV/RQ 0 XOWLP HGLD			~ æì
	,(((7UDQVDFWRQV/RQ 1 HXUDO6\VWHPV DQG 5HKDELOLWDWLRQ (QJLQHHULQJ			~ æì
	,(((7UDQVDFWRQV/RQ 3DUDOOHODQG' LVWULEXWHG 6\VWHPV			~ æì
	,(((7UDQVDFWRQV/RQ 3RZHU' HOLYHU			~ æì
	,(((7UDQVDFWRQV/RQ 3RZHU(OHFWURQLFV			~ æì
	,(((7UDQVDFWRQV/RQ 9 HKLFXODU7HFKQRORJ\			~ æì
	,QIRUP DWRQ6FLHQFHV			~ æì
	,QWHUQDWLRQDO-RXUQDORI %LR LQVSLUHG&RP SXWDWLRQ			~ æì
	-RXUQDORI 0 DQXI DFWXULQJ 6\VWHPV			~ æì
	-RXUQDORI 1 HWZRUN DQG &RP SXWHU$ SSOLFDWLRQV			~ æì
	-RXUQDORI 1 HXUDO (QJLQHHULQJ			~ æì
	-RXUQDORI 1 HXURVFLHQFH			~ æì
	0 HFKDQLFDO6\VWHPV DQG 6LJQDO3URFHVVLQJ			~ æì
	1 HXURLP DJH			~ æì
	6FLHQWLF5HSRUWV			~ æì

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	$ VLDQ-RXUQDORI &RQWRO			Å %8 â 0 Å %] Q
	&RQWRO7KHRU DQG 7HFKQRORJ\			Å %8 â 0 Å %] Q
	(XURSHDQ-RXUQDORI &RQWRO			Å %8 â 0 Å %] Q
	,(7 &RQWRO7KHRU DQG $ SSOLFDWRQ			Å %8 â 0 Å %] Q
	,QWHUQDWRQDO-RXUQDORI &RQWRO			Å %8 â 0 Å %] Q
	2 SWP DO&RQWRO $ SSOLFDWRQV DQG 0 HWKRGV			Å %8 â 0 Å %] Q
	6\VWHPV &RQWRO / HWWHUV			Å %8 â 0 Å %] Q

Å -	U @C0&	, 661 (, 661	&1	œ0 N¼
	Å %8 â 0 ë			Å %8 â 0 Å %] Q
	%LRORJLFDO&\ EHLQHWFV			f ´ - ¹ 0 & Ÿ , Ä
	&RP SXWHU9 LVLRQ DQG ,P DJH8 QGHUDVDQGLQJ	;		f ´ - ¹ 0 & Ÿ , Ä
	' DVD0 LQLQJ DQG . QRZ OHGJH' LVFRYHLV	;		f ´ - ¹ 0 & Ÿ , Ä
	(YROXWRQDU\ &RP SXWDWRQ			f ´ - ¹ 0 & Ÿ , Ä
	,(((,QWHOOJHQW 6\ VWHP V			f ´ - ¹ 0 & Ÿ , Ä
	,(((7UDQVDFWRQVRQ $ XWRQRP RXV0 HQWDO ' HYHORSP HQW			f ´ - ¹ 0 & Ÿ , Ä
	,(((7UDQVDFWRQVRQ &RP SXWDWRQDO ,QWHOOJHQFH DQG$, LQ * DP HV	;		f ´ - ¹ 0 & Ÿ , Ä
	,(((7UDQVDFWRQVRQ + DSWFV			f ´ - ¹ 0 & Ÿ , Ä
	,(((7UDQVDFWRQVRQ + XP DQ0 DFKLQH 6\ VWHP V			f ´ - ¹ 0 & Ÿ , Ä
	,QWHUQDWRQDO-RXUQDORI $ SSUR[LP DWH5 HDVRQLQJ	;		f ´ - ¹ 0 & Ÿ , Ä
	,QWHUQDWRQDO-RXUQDORQ ' RFXP HQW$ QDO\VLV DQG 5 HFRJQLWRQ			f ´ - ¹ 0 & Ÿ , Ä
	-RXUQDORI $ UWLFLDO ,QWHOOJHQFH5 HVHDUFK			f ´ - ¹ 0 & Ÿ , Ä
	-RXUQDORI 0 DFKLQH / HDUQLQJ 5 HVHDUFK			f ´ - ¹ 0 & Ÿ , Ä
	. QRZ OHGJH DQG ,QIRUP DWRQ6\ VWHP V			f ´ - ¹ 0 & Ÿ , Ä
	0 DFKLQH/ HDUQLQJ			f ´ - ¹ 0 & Ÿ , Ä
	3DWWHUQ5 HFRJQLWRQ / HWWHUV			f ´ - ¹ 0 & Ÿ , Ä
	f ´ - ¹ 0] & Ÿ		73	f ´ - ¹ 0 & Ÿ , Ä
	$ &0 7UDQVDFWRQVRQ 6HQVRU1 HWZ7RUNV			¿ • ì 0 ‘ N $ m"
	,(((-RXUQDORI 6HOHFWHG7 RSLFVLQ $ SSOLHG(DUWK 2 EVHUYDWRQVDQG 5 HP RWH6HQVLQJ			¿ • ì 0 ‘ N $ m"
	,(((6HQVRUV-RXUQDO	;		¿ • ì 0 ‘ N $ m"
	,(((6LJQDO3URFHVVLQJ / HWWHUV			¿ • ì 0 ‘ N $ m"
	,(((7UDQVDFWRQVRQ ,QWWXP HQWDWRQ DQG 0 HDVXUHP HQW			¿ • ì 0 ‘ N $ m"
	,(((7UDQVDFWRQVRQ 1 DQRWHFKQRORJ\	;		¿ • ì 0 ‘ N $ m"
	,QWHUQDWRQDO-RXUQDORI $ GYDQFHG 0 DQXI DFWXULQJ 7HFKQRORJ\			¿ • ì 0 ‘ N $ m"
	-RXUQDORI ,QWWXP HQWDWRQ			¿ • ì 0 ‘ N $ m"
	-RXUQDORI			¿ • ì 0 ‘ N $ m"

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	0 LFURHOHFWURP HFKDQLFDC 6\ VWMP V			
	0 HDVXUHP HQW			¿ • ì 0 ‘ N $ m"
	0 LFURI CXLGLFV DQG 1 DQRI CXLGLFV			¿ • ì 0 ‘ N $ m"
	1 DQRVMFKQRORJ\			¿ • ì 0 ‘ N $ m"
	6HQVRUV DQG $ FVXDVRU $ 3K\ VLFDO			¿ • ì 0 ‘ N $ m"
	® v ® ¶ 0 q		7+	¿ • ì 0 ‘ N $ m"
	$ FVD/$ VWURQDXWLFD			ý Ô c %ý 0 Å %
	,((($ HURVSDFH DQG (OHFWURQLF 6\ VWMP V 0 DJD] LQH			ý Ô c %ý 0 Å %
	,(7 5 DGDU6RQDU 1 DYLJDWRQ			ý Ô c %ý 0 Å %
	-RXUQDORI $ HURVSDFH &RP SXWLQJ ,QI RUP DWRQ DQG&RP P XQLFDWRQ			ý Ô c %ý 0 Å %
	-RXUQDORI $ HURVSDFH (QJLQHHULQJ			ý Ô c %ý 0 Å %
	-RXUQDORI 1 DYLJDWRQ			ý Ô c %ý 0 Å %
	-RXUQDORI 3URSXOVLRQ DQG3RZ HU			ý Ô c %ý 0 Å %
	0 LFURJUDYLW 6FLHQFH DQG7HFKQRORJ\			ý Ô c %ý 0 Å %
	3URFHHGLQJVRI VKH ,QWWXWRQRI 0 HFKDQLFDO(QJLQHHUV 3DUW -RXUQDORI $ HURVSDFH(QJLQHHULQJ			ý Ô c %ý 0 Å %
	Ô Â 0 q		9	ý Ô c %ý 0 Å %
	3 Ô 0 q		9	ý Ô c %ý 0 Å %
	&RP SXWMLV 2 SHUDWRQV5 HVHDUFK	;		, Ä] Q
	,(((7UDQVDFWRQVRQ (QJLQHHULQJ 0 DQDJHP HQW			, Ä] Q
	,,(7UDQVDFWRQV	;		, Ä] Q
	-RXUQDORI 6\ VWMP V 6FLHQFH DQG&RP SOH[LW			, Ä] Q
	3K\ VLFDO5 HYLHZ (			, Ä] Q
	3K\ VLFV/ HWMLV$			, Ä] Q
	7UDQVDFWRQVRQ&LUFXLW DQG6\ VWMP V3DUW,			, Ä] Q
	Å %0 …		73	, Ä] Q
	, Ä] Q 8 â 0 ¬ Ì		1	, Ä] Q
	%LRV\ VWMP V			“ ^ ð o 0
	%P F %LRLQI RUP DWFV			“ ^ ð o 0
	' DWDEDVH 7KH-RXUQDORI %LRORJLFDO DWDEDVHV DQG&XUDWRQ			“ ^ ð o 0
	* HQH			“ ^ ð o 0
	,(((7UDQVDFWRQVRQ ,QI RUP DWRQ7HFKQRORJ\ LQ%LRP HGLFLQH			“ ^ ð o 0
	,(((7UDQVDFWRQVRQ 1 DQR%LRVFLHQFH			“ ^ ð o 0

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	,((($&0 7UDQVDFWLRQVRQ &RP SXWDWLRQDO%LRORJ\ DQG%LRLQIRUP DWLFV			“ ^ ð o 0
	,(7 6\ VWHP V%LRORJ\			“ ^ ð o 0
	-RXUQDORI &RP SXWDWLRQDO%LRORJ\			“ ^ ð o 0
	-RXUQDORI 7KHRUHWLFDO %LRORJ\			“ ^ ð o 0
	0 HWKRGV			“ ^ ð o 0
	0 RGHFXODU2 PLFV			“ ^ ð o 0
	4 XDQWXPDWLYH%LRORJ\			“ ^ ð o 0
	&KHP LFDO(QJLQHHULQJ 7HFKQRORJ\			r œð o $
	&KHP LFDO(QJLQHHULQJ DQG3URFHVVLQJ			r œð o $
	&KHP LFDO(QJLQHHULQJ 5HVHDUFK ' HVLJQ			r œð o $
	&KLQHVH-RXUQDORI &KHP LFDO(QJLQHHULQJ			r œð o $
	(QHUJ\ ) XHOV			r œð o $
	(QJLQHHULQJ 2 SWLPL] DWLRQ	;		r œð o $
	(QYLURQPH,QWHUQDWLRQDO 6\ VWHP V			r œð o $
	,QGXVWULDO (QJLQHHULQJ &KHP LVWU\ 5HVHDUFK			r œð o $
	,QGXVWULDO 0 DQDJHP HQW ' DWD 6\ VWHP V			r œð o $
	,QWHUQDWLRQDO-RXUQDORI 0 LQHUDO3URFHVVLQJ			r œð o $
	-RXUQDORI &KHP LFDOEQG (QJLQHHULQJ ' DWD			r œð o $
	6\VWHPV5HVHDUFK ,QWHUQDWLRQDO			r œð o $
	7(768 72 +$*$1(-2851$/ 2) 7+(,521 $1' 67((/ ,167,787(2) -$3$1			r œð o $
	$SSOLHG2 SWLFV	;		& Ÿ + 0 ‘ V Å %
	%LRP HGLFDO2 SWLFV ([SUHVV			& Ÿ + 0 ‘ V Å %
	,(((3KRWRQLFV 7HFKQRORJ\ / HWWHUV			& Ÿ + 0 ‘ V Å %
	-RXUQDORI 2 SWLFV			& Ÿ + 0 ‘ V Å %
	3K\ VLFV$ 6WDWLVWLFDO 0 HFKDQLFV DQG LWV $SSOLFDWLRQV			& Ÿ + 0 ‘ V Å %
	$GYDQFHG5 RERWLFV			o v 0 M , Ä
	$XWRQRP RXV5 RERWV			o v 0 M , Ä
	%LRLQVSLUDWLRQ %LRP LP HWLFV			o v 0 M , Ä
	,QGXVWULDO5 RERWV7 KH ,QWHUQDWLRQDO-RXUQDORI 5 RERWLFV5HVHDUFK DQG	;		o v 0 M , Ä

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	$ SSOFDWRQ			
	, QWUQDWRQDO-RXUQDORI $ GYDQFHG5 RERWF 6\ VWP V			o v 0 M , Ä
	, QWUQDWRQDO-RXUQDORI + XP DQRLG5 RERWFV			o v 0 M , Ä
	, QWUQDWRQDO-RXUQDORI 5 RERWFV DQG $ XWRP DWRQ			o v 0 M , Ä
	-RXUQDORI $ HURVSDFH , QI RUP DWRQ6\ VWP V			o v 0 M , Ä
	-RXUQDORI , QWHOOJHQW DQG5 RERWF 6\ VWP V			o v 0 M , Ä
	0 HGLFDODQG%LRORJLFDO (QJLQHHULQJ DQG &RP SXWQJ			o v 0 M , Ä
	5 RERWFD			o v 0 M , Ä
	8 QP DQQHG6\ VWP			o v 0 M , Ä
	o v		73	o v 0 M , Ä
	$ &0 7 UDQVDFWRQV RQ 0 RGHOOQJ DQG&RP SXWU 6LP XODWRQ			¿ ç ³ 0 0] Q
	&RP SXWDWRQDO6 VDWWWFV ' DWD$ QDOVLV			¿ ç ³ 0 0] Q
	, QWUQDWRQDO-RXUQDOI RU 0 XOWFDOH &RP SXWDWRQDO (QJLQHHULQJ			¿ ç ³ 0 0] Q
	, QWUQDWRQDO-RXUQDORI (QJLQHHULQJ 6\ VWP V 0 RGHOOQJ DQG 6LP XODWRQ			¿ ç ³ 0 0] Q
	, QWUQDWRQDO-RXUQDORI 0 RGHOOQJ 6LP XODWRQ DQG6FLHQWLF &RP SXWQJ			¿ ç ³ 0 0] Q
	, QWUQDWRQDO-RXUQDORI 0 RGHOOQJ DQG 6LP XODWRQ			¿ ç ³ 0 0] Q
	, QWUQDWRQDO-RXUQDORI 1 RQOQHDU6FLHQFHV DQG 1 XP HULFDO6LP XODWRQ			¿ ç ³ 0 0] Q
	, QWUQDWRQDO-RXUQDORI 6LP XODWRQ DQG3URFHVV 0 RGHOOQJ			¿ ç ³ 0 0] Q
	,17(51$7,21$/ -2851$/ 2) 6<67(0 6 6&,(1&(			¿ ç ³ 0 0] Q
	-RXUQDORI 6LP XODWRQ			¿ ç ³ 0 0] Q
	-RXUQDORI 6VDWWWFDO &RP SXWDWRQ DQG 6LP XODWRQ			¿ ç ³ 0 0] Q
	0 RGHOOQJ DQG 6LP XODWRQ LQ0 DWULDO 6FLHQFH DQG (QJLQHHULQJ			¿ ç ³ 0 0] Q
	6LP XODWRQ 7 UDQVDFWRQV RI VKH6RFLHWI RU 0 RGHOOQJ DQG 6LP XODWRQ, QWUQDWRQDO			¿ ç ³ 0 0] Q

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	6RWZDUHDQG6\VWHP V 0 RGHOQJ			¿ ç ³ 0 0] Q
	™8 o ¿ ç		73	¿ ç ³ 0 0] Q
	, Ä ¿ ç • ì		73	¿ ç ³ 0 0] Q
	¥ £ ¬ 0 & Ÿ ÷ Ñ ç 3 Q 9LUWXDO 5HDOLW ,QWHJUDWHG +DUGZDUH			¿ ç ³ 0 0] Q
	H Å %0 ¿ ç		7-	¿ ç ³ 0 0] Q
	$ XWRQRP RXV,QWHJUDWHG\ 6\VWHP V	;		~ æì
	) URQWHUVLQ &RP SXWDWLRQDO 1HXURVFLHQFH			~ æì
	,((7UDQVDFWLRQV RQ &LUFXLWVDQG6\VWHP V			~ æì
	-RXUQDORI &RP SXWDWLRQDO 1HXURVFLHQFH			~ æì
	0 HFKDQLVP DQG 0 DFKLQH7KHRU	;		~ æì
	0 HFKDWURQLFV			~ æì
	1HXUDO&RP SXWDWLRQ	;		~ æì
	3K\VLFD' 1RQOLQHDU 3KHQRP HQD			~ æì

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7		1$785((1(5* <			Ÿ W0 (O˜ æ
7		/ ³ (o] Q0 q		&1 70	Ÿ W0 (O˜ æ
7		352&((' ,1* 6 2) 7+(,(((			Ÿ W0 (O˜ æ
7		/ ³ (o] Q0 V (O0 Ÿ W, Ä 0 q ç 3		&1 70	Ÿ W0 (O˜ æ
7		£ Ý (O, Ä 0 Â Ÿ W0 q ç 3		&1 7.	Ÿ W0 (O˜ æ
7		$33/ ,(' (1(5* <			Ÿ W0 (O˜ æ
7		,(((75$16$&7,216 21 ,1' 8675,$/ ,1)250 $7,&6			Ÿ W0 (O˜ æ
7		352* 5(66 ,1 (1(5* < $1' &20 %867,21 6&,(1&(			Ÿ W0 Ÿ (• ì
7		(1(5* < (19,5210 (17$/ 6&,(1&(			Ÿ W0 Ÿ (• ì
7		,(((75$16$&7,216 21 6867$,1$%/ ((1(5* <			Ÿ W0 Ÿ (• ì
7		)8(/			Ÿ W0 Ÿ (• ì
7		NO] Q0 q		&1 7.	Ÿ W0 Ÿ (• ì
7		62/$5 (1(5* < 0 $7(5,$/6 $1' 62/$5 &(//6			Ÿ W0 Ÿ (• ì
7		,(((75$16$&7,216 21 (1(5* < &219(56,21			Ÿ W0 Ÿ (• ì
7		OŸ (		&1 70	Ÿ W0 Ÿ (• ì
7		,(((75$16$&7,216 21 60 $57 *5,'			(O, Äƒ c ‘ N$
7		(O, Ä ‘ N$		&1 73	(O, Äƒ c ‘ N$
7		(• ì		&1 70	(O, Äƒ c ‘ N$
7		,(((75$16$&7,216 21 32: (5 6<67(0 6			(O, Äƒ c ‘ N$
7		,(((75$16$&7,216 21 32: (5 ' (/,9(5<			(O, Äƒ c ‘ N$
7		3527(&7,21 $1' &21752/ 2) 0 2' (51 32: (5 6<67(0 6			(O, Äƒ c ‘ N$
7		( ] • ì 0 q		&1 70	( ] 8 â 0 m•
7		+LJK9RQWH		&1 70	( ] 8 â 0 m•
7		,(((75$16$&7,216 21 32: (5 (/(&7521,&6			( ] 8 â 0 m•
7		,(((75$16$&7,216 21 ' ,(/(&75,&6 $1' (/(&75,&$/ ,168/$7,21			( ] 8 â 0 m•
7		: (B • ì		&1 70	( ] 8 â 0 m•
7		$' 9$1&(' (1(5* < 0 $7(5,$/6			( ] 8 â 0 m•

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7 4ÝU @ 0					
7		,(((63(&7580			Ÿ W0 (O˜ æ
7		(1(5*< &219(56,21 $1' 0$1$*(0(17			Ÿ W0 (O˜ æ
7		(1(5*< 675$7(*< 5(9,(: 6	;		Ÿ W0 (O˜ æ
7		(1(5*< (&2120,&6			Ÿ W0 (O˜ æ
7		(QHUJ\ &RQVHUYDWLRQDQG(FRQRPLFV			Ÿ W0 (O˜ æ
7		/ ³ (O		&1 70	Ÿ W0 (O˜ æ
7		,17(51$7,21$/ -2851$/ 2) (/(&75,&$/ 32: (5 (1(5*< 6<67(06			Ÿ W0 (O˜ æ
7		ÓDŸW0, B ç 3		&1 7.	Ÿ W0 (O˜ æ
7		(1(5*< 32/,&<			Ÿ W0 (O˜ æ
7		,17(51$7,21$/ -2851$/ 2) (1(5*< 5(6($5&+	;		Ÿ W0 (O˜ æ
7		(1(5*< -2851$/			Ÿ W0 (O˜ æ
7		6867$,1$%/ ((1(5*<)8(/6			Ÿ W0 (O˜ æ
7		&P(O		&1 70	Ÿ W0 (O˜ æ
7		z (OÖ00q ‘ ö³ 0Q		&1 70	Ÿ W0 (O˜ æ
7		5(1(: $%/ (6867$,1$%/ ((1(5*< 5(9,(: 6			Ÿ W0 Ÿ (• ì
7		5(1(: $%/ ((1(5*<			Ÿ W0 Ÿ (• ì
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7		ÂwNO00q		&1 7.	Ÿ W0 Ÿ (• ì
7		Ÿ (• ì		&1 7.	Ÿ W0 Ÿ (• ì
7		(1(5*<)8(/6			Ÿ W0 Ÿ (• ì
7		62/$5(1(5*<	;		Ÿ W0 Ÿ (• ì
7		,17(51$7,21$/ -2851$/ 2) +<' 52*(1(1(5*<			Ÿ W0 Ÿ (• ì
7		-2851$/ 2) (1(5*< 5(6285&(67(&+12/2*< 75$16$&7,2162) 7+($60(			Ÿ W0 Ÿ (• ì
7		-2851$/ 2) 32: (5 6285&(6			Ÿ W0 Ÿ (• ì
7		-2851$/ 2) 7+((1(5*< ,167,787(			Ÿ W0 Ÿ (• ì
7		ŸNO] Q		&1 7.	Ÿ W0 Ÿ (• ì
7		$33/,(' 7+(50$/ (1*,1((5,1*			Ÿ W0 Ÿ (• ì
7		,(((-2851$/ 2) 3+27292/7$,&6			Ÿ W0 Ÿ (• ì
7		,(((75$16$&7,21621 5(/,$%/,7<			(O, Äƒc ‘ N$
7		,(((75$16$&7,21621 .12: /(' *($1' ' 7 (1*,1((5,1*			(O, Äƒc ‘ N$
7		(O, Äl 0Å%		&1 70	(O, Äƒc ‘ N$
7		æÏ ŸW S ç 3		&1 7.	(O, Äƒc ‘ N$
7		(O‘ N$••		&1 70	(O, Äƒc ‘ N$
7		,(((75$16$&7,21621 75$163257$7,21 (/(&75,),&$7,21			(O, Äƒc ‘ N$
7		,(((75$16$&7,21621 ,1' 8675< $33/,&$7,216			(O, Äƒc ‘ N$
7		,(7(/(&75,&$/ 6<67(06,1 75$163257$7,21			(O, Äƒc ‘ N$

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7		,(7(/(&75,&32: (5 $33/,&$7,216			(O, Äƒc ‘ N$
7		,(((75$16$&7,21621 0$*1(7,&6			( ] 8 â 0 m•
7		,(((-2851$/2)(0(5*,1* $1' 6(/(&7(' 723,&6,132: (5 (/(&7521,&6			( ] 8 â 0 m•
7		,(((75$16$&7,21621 &,5&8,76 $1' 6<67(06,,(;35(66%5,()6			( ] 8 â 0 m•
7		,(((-2851$/2)7+((/(&7521 '(9,&(662&,(7<			( ] 8 â 0 m•
7		$'9$1&(' (/(&7521,& 0$7(5,$/6	;		( ] 8 â 0 m•
7		,(((75$16$&7,21621 &,5&8,76 $1' 6<67(06,5(*8/$53$3(56			( ] 8 â 0 m•
7		(W0 q		&1 70	( ] 8 â 0 m•
7		(o 0 Å %0 q	;	&1 70	( ] 8 â 0 m•
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7		,((((/(&75,&$/ ,1681/$7,21 0$*$=,1(			( ] 8 â 0 m•
7		,(72372(/(&7521,&6			( ] 8 â 0 m•
7		&3667UDQVDFWLRQV RQ3RZHU(GHFWRQLFV DQG$SSOLFDWLRQV	;		( ] 8 â 0 m•
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7		(1(5*<$1' %8,/',1*6			Ÿ W0 (O˜ æ
7		/ ³ (w] Q0 q ç 3		&1 70	Ÿ W0 (O˜ æ
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7		,(7(QHJ\6\VWHP V,QWHJUDWRQ			Ÿ W0 (O˜ æ
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7		£ Ý (O		&1 70	Ÿ W0 (O˜ æ
7		(1(5*<)25 6867$,1$%/('(9(/230(17			Ÿ W0 (O˜ æ
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7		,(75(1(:$%/(32:(5 *(1(5$7,21			Ÿ W0 Ÿ (• ì
7		± ¶ • ì		&1 7.	Ÿ W0 Ÿ (• ì
7		(1(5*<7(&+12/2*<			Ÿ W0 Ÿ (• ì
7		-2851$/2)62/$5(1(5*< (1*,1((5,1* 75$16$&7,2162)			Ÿ W0 Ÿ (• ì

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7		-2851$/ 2) 5(1(: $%/ ($1' 6867$,1$%/ ((1(5* <			Ÿ W0 Ÿ (• ì
7		)8(/ &(//6			Ÿ W0 Ÿ (• ì
7		%,2)8(/6 8.			Ÿ W0 Ÿ (• ì
7		,17(51$7,21$/ -2851$/ 2) * 5((1 (1(5* <			Ÿ W0 Ÿ (• ì
7		,17(51$7,21$/ 75$16$&7,216 21 (/(&75,&$/ (1(5* < 6<67(0 6			Ÿ W0 Ÿ (• ì
7		&20 %867,21 7+(25< $1' 0 2' (//,1*			Ÿ W0 Ÿ (• ì
7		,QWHUQDWLRQDO-RXUQDORI 6XWDLQDEOH (QHUJ\ ' HYHORSP HQW			Ÿ W0 Ÿ (• ì
7		-2851$/ 2) 3+2721,&6)25 (1(5* <			Ÿ W0 Ÿ (• ì
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7		(QHUJ\ (QJLQHHULQJ			Ÿ W0 Ÿ (• ì
7		' º (• ì		&1 7.	(O, Ä ƒ c ‘ N $
7		(/(&75,& 32: (5 6<67(0 6 5(6($5&+			(O, Ä ƒ c ‘ N $
7		(O, Ä ƒ c ‘ N $ 0 q		&1 70	(O, Ä ƒ c ‘ N $
7		(O ð o 0 ¹ ð • ì	;	&1 7.	(O, Ä ƒ c ‘ N $
7		b (		&1 70	(O, Ä ƒ c ‘ N $
7		,(7 * (1(5$7,21 75$160 ,66,21 ' ,675,%87,21			(O, Ä ƒ c ‘ N $
7		(O Ù •		&1 70	(O, Ä ƒ c ‘ N $
7		,(7 6&,(1&(0($685(0(17 7(&+12/2* <			(O, Ä ƒ c ‘ N $
7		,(((,1' 8675< $33/,&$7,216 0 $* $=,1(			(O, Ä ƒ c ‘ N $
7		(O Ð • 8		&1 7.	(O, Ä ƒ c ‘ N $
7		(/(&75,& 32: (5 &20 321(176 $1' 6<67(0 6			(O, Ä ƒ c ‘ N $
7		(O] Q • ì		&1 70	(O, Ä ƒ c ‘ N $
7		(O³ 0 0] Q		&1 7.	(O, Ä ƒ c ‘ N $
7		(O³ 0 0 • ì 0 q		&1 70	(O, Ä ƒ c ‘ N $
7		( ] (Ÿ í • ì		&1 70	( ] 8 â 0 m •
7		$33/,(' &20 387$7,21$/ (/(&7520 $* 1(7,&6 62&,(7< -2851$/			( ] 8 â 0 m •
7		,(((0 $* 1(7,&6/(77(56	;		( ] 8 â 0 m •
7		3+<6,&$ & 683(5&21' 8&7,9,7< $1' ,76 $33/,&$7,216			( ] 8 â 0 m •
7		(v 0 Ÿ Ò • 8 • ì		&1 70	( ] 8 â 0 m •
7		Ö (o • ì		&1 70	( ] 8 â 0 m •
7		(/(. 7521,. $,5 (/(. 7527(&+1,. $			( ] 8 â 0 m •
7		: B (v		&1 70	( ] 8 â 0 m •
7		- B v		&1 70	( ] 8 â 0 m •
7		‡ X ë x		&1 70	( ] 8 â 0 m •
7		(W • ì	;	&1 70	( ] 8 â 0 m •

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7		(O(v 0 M_ à *		&1 70	( ] 8 â 0 m•
7		(¬ ¥ " v		&1 70	( ] 8 â 0 m•
7		(0 ® ¶		&1 7+	( ] 8 â 0 m•

Ö Ý q – ê 3 Ù ~ / n k + G

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Ÿ ã ¨ · ! -

c q9¥N¼ QC‰H 0 ¶ U @<4Ý$ ‹ 74Ý´ 0 µ

<4Ý	U @ C 0&	,661 (,661	&1	œ0 N¼
T1	/ ³ ¬ r º ” 0 v	1005-9903	11-3495/R	/ ¤ •
T1	/ / ¤ • v	1673-1727	11-5334/R	/ ¤ •
T1	/ / ¤ • 0 œ	1673-7717	21-1546/R	/ ¤ •
T1	/ ³ / ¤ n „ ¤ 0 v	1006-3250	11-3554/R	/ ¤ •
T1	z 8 / ¤ • Ö 0 0 q	1006-2157	11-3574/R	/ ¤ •
T1	/ ¤ v	1001-1668	11-2166/R	/ ¤ •
T1	/ ³ / • v	1001-5302	11-2272/R	/ ¤ •
T1	/ •	0253-2670	12-1108/R	/ ¤ •
T1	/ ³ / f ¤ æv	1003-5370	11-2787/R	/ ¤ •
T1	ì ¯ Y N	1000-0607	11-2274/R	/ ¤ •
T1	/ ³ ì S	0255-2930	11-2024/R	/ ¤ •
T1	/ ³ æ¤ 0 v	1672-0415	11-4928/R	/ ¤ •
T1	/ ¤ v (ç 3 Q)	0255-2922	11-2167/R	/ ¤ •
T1	æ¤ 0 0 q(ç 3)	2095-4964	31-2083/R	/ ¤ •

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7	/ ³ / ¤ • ð o v		5	/ ¤ •
7	r Á / ¤ • Ö 0 0 q	;	5	/ ¤ •
7	’ 8 / ¤ • Ö 0 0 q		5	/ ¤ •
7	h º / ¤ • v		5	/ ¤ •
7	/ ³ / ¤ „	;	5	/ ¤ •
7	/ ¤ 0 q		5	/ ¤ •
7	/ ³ € d		5	/ ¤ •
7	œ< / ¤ • Ö 0 0 q		5	/ ¤ •
7	’ / ¤ • Ö 0 0 q	;	5	/ ¤ •
7	¢ 0 q		5	/ ¤ •
7	h º / ¤ • Ö 0 0 q	;	5	/ ¤ •
7	ä Þ / ¤ • Ö 0 0 q		5	/ ¤ •
7	J / ¤ • Ö 0 0 q		5	/ ¤ •
7	· / ¤ •		5	/ ¤ •
7	V J / ¤ • Ö 0 0 q	;	5	/ ¤ •
7	z 8 / ¤ •		5	/ ¤ •
7	/ ¤ þ €		5	/ ¤ •
7	/ ¤ • 0 q		5	/ ¤ •
7	} • / ¤ •		5	/ ¤ •

7	Ÿ # / ¤ • Ö 0 0 q		5	/ ¤ •
7	, Ï / ¤ •		5	/ ¤ •
7	r Á / ¤ v		5	/ ¤ •
7	) • / ¤ • Ö 0 0 q		5	/ ¤ •
7	/ ³ / ¤ € d ³ v		5	/ ¤ •
7	/ ¤ • ý q	;	5	/ ¤ •
7	f æ/ ¤ •		5	/ ¤ •
7	V J / ¤ v	;	5	/ ¤ •
7	Þ * / ¤ •	;	5	/ ¤ •
7	Ÿ # / ¤ •		5	/ ¤ •
7	/ ³ £ Ý / •		5	/ ¤ •
7	/ • í • 0 , • • 8		5	/ ¤ •
7	¨ å ³ ¤ ³ •		5	/ ¤ •
7	/ N •		5	/ ¤ •
7	· ³ 0 • ì k k / ¤ • £ Ý $		5	/ ¤ •
7	/ • • 8 0 , •	;	5	/ ¤ •
7	/ ³ / f ¤ æ„ Wv		5	/ ¤ •
7	/ ³ / f ¤ æõ ¾0 v		5	/ ¤ •
7	· / f ¤ æv		5	/ ¤ •
7	/ ³ / f ¤ æ• È v	;	5	/ ¤ •
7	/ f ¤ æï —3 • È v		5	/ ¤ •
7	ì S , • v		5	/ ¤ •
7	h º ì S v		5	/ ¤ •
7	/ ¤ • 3 $		5	/ ¤ •
7	/ ¤ ® v		5	/ ¤ •
7	· / ¤ • v ç 3		5	/ ¤ •
7	/ • ç 3 Q		5	/ ¤ •
7	· ì S v		5	/ ¤ •
7	/ ¤ ³ 0 v ç 3		5	/ ¤ •
7	ô “ / ¤ • ç 3	;	5	/ ¤ •
7	ì S × † ¤ 0 ç 3 Q		5	/ ¤ •

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7	$ FWD* HRORJLFD6LQLFD (QJDMK ( ) 0 q ç 3 Q		3	) 0
7	$ FWD2 FHDQRORJLFD6LQLFDº | 0 q ç 3 Q	;	3	º | ³ 0 c 3 0
7	$ GYDQFHVLQ$ WRVSKHUF 6FLHQFHVÖ w ³ 0) º ç 3 Q		2	Ö w ³ 0
7	$ GYDQFHVLQ&OP DWV&KDQJH 5HVHDUFKw - $ Y N) º ç 3 Q		3	Ö w ³ 0
7	&KLQD2 FHDQ(QJLQHHULQJ / ³ º |] Q ç 3 Q		3	º | ³ 0 c 3 0
7	(DUWKTXDNH(QJLQHHULQJ DQG (QJLQHHULQJ 9 LEUDWRQ ñ] Q 0] Q ò N ç 3 œ		3	ñ 0 c Ï ^ 8 0
7	) URQWLHUVRI (DUWK6FLHQFH Ï ³ 0 • a ç 3 Q		3	) 0
7	* HRVFLHQFH) URQWLHUV 0 • X ç 3 Q		3	) 0
7	,QWHUDWRQDO-RXUQDORI &RDO 6FLHQFH 7HFKQRORJ\ ³ • r ³ 0 • ì 0 q ç 3		7'	à V] Q • ì
7	,QWHUDWRQDO-RXUQDORI 0 LQLQJ 6FLHQFHDQG7HFKQRORJ\ à œ³ 0 • ì 0 q ç 3		7'	à V] Q • ì
7	-RXQDORI 2 FHDQ8 QLYHUVLWWRI &KLQD/ ³ º | Ö 0 0 q ç 3 Q		3	º | ³ 0 c 3 0
7	-RXUQDORI (DUWK6FLHQFH Ï ³ 0 0 œ ç 3 Q	;	3	) 0
7	-RXUQDORI 0 HWRURORJLFDO 5HVHDUFKw À 0 q ç 3 Q		3	Ö w ³ 0
7	-RXUQDORI 2 FHDQRORJ\ DQG / LPQRORJ\ º | Ô 0 q ç 3		3	º | ³ 0 c 3 0
7	-RXUQDORI 3DDH-RJHRJUDSK\ ~		3	) 0 c à ^ c [

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	8 0 q ç 3 Q			¦ c à • 0 c Ï ^ 8 0
7	3HWURO\P 6FLHQFH¦ ³ 0 ç 3 Q		7(	¦ Ÿ ö w] œ
7	5HVHDUFKLQ$VWURQRP\ DQG $VWURSK\VLFVŸ 3 ä Ÿ ˜ ^ 8 0 Y N		3	Ÿ 3 0
7	6&,(1&(&+,1$ (DUWK 6FLHQFHV// ³ ³ 0 Ï ³ 0 ç 3 Q		3	) 0
7	ð à 0 æ] Q0 q		7'	à V] Q • ì
7	F r 0 q		3	) 0 c à ^ c [¦ c à • 0
7	N [8] Ö0 0 q ‘ ö ³ 0 Q		1	) 0 c ¦
7	Ö r • 0 N à 0		3	) 0
7	Ö w ³ 0		2	Ö w ³ 0
7	0 v		3	) 0 c ~ “ ^ 0
7	Ï $ 0		3	à ^ c [¦ c à • 0
7	Ï ³ 0		3	) 0
7	Ï ³ 0) º		3	) 0 c Ï ^ 8 0
7	Ï ^ 8 0 q		3	Ï ^ 8 0
7	Ï 0 q		3	) 0
7	0 • X		3	) 0
7	ñ)		3	ñ 0 c Ï ^ 8 0
7	ñ 0 q		3	ñ 0 c Ï ^ 8 0
7	) â ?		3	) 0
7	) 0 q		3	) 0
7	Y N		3	) 0
7	$ Ì Õ Y N		;	Ö w ³ 0
7	: P w À		3	Ö w ³ 0
7	~ 8 0 q		3	) 0 c à ^ c [¦ c à • 0
7	~ Œr N ^ 0 q / ç 3		4	~ “ ^ 0
7	~ “ ^ 0 q		4	~ “ ^ 0
7	º	0 q		3	º	³ 0 c 3 0
7	º	0 Ô	;	3	º	³ 0 c 3 0
7	à •)		3	à ^ c [¦ c à • 0
7	à ^ [¦ Ï $ 0 ¹ q			à ^ c [¦ c à • 0
7	à œ³ 0 0 q		7'	à V] Q • ì
7	r ³ 0 • ì		7'	à V] Q • ì

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7	r 0 q		7'	à V] Q • ì
7	¢) 0 ž p		3	à V] Q • ì
7	w À 0 q		3	Ö w ³ 0
7	¦ Ï ^ 8 ž p		7(	¦ Ÿ ö w] œc Ï ^ 8 0
7	¦ ž p 0 —Ÿ / c ç 3	/ 3 ! ç 3 !	/ 3 ! 7(ç 3 ! 7(	¦ Ÿ ö w] œ
7	¦ 0 q		7(	¦ Ÿ ö w] œ
7	¦ 0 Ÿ ö w)		7(	¦ Ÿ ö w] œ
7	Ÿ ö w] œ		7(	¦ Ÿ ö w] œ
7	[¦ à ^ 0 v		3	à ^ c [¦ c à • 0
7	[¦ 0 q		3	à ^ c [¦ c à • 0
7	/ ³)		3	) 0
7	/ ³ ³ 0 ! Ï ³ 0		3	) 0
7	/ ³ à œÖ 0 0 q		7'	à V] Q • ì
7	/ ³ ¦ Ö 0 0 q ‘ ö ³ 0 Q		7(	¦ Ÿ ö w] œ
7	$ FLD* HRFKLP LFD Ï $ 0 ç 3 Q		3	à ^ c [¦ c à • 0
7	$ GYDQFHVLQ* HR (QHJU\ 5 HVHDUFK		M	¦ Ÿ ö w] œ
7	$ GYDQFHVLQ3RDU6FLHQFH~ ³ 0) º ç 3		3	º | ³ 0 c 3 0 c à ^ c [¦ c à • 0
7	$ 33/ ,(' * (2 3+ < 6,&6 ë Ï ^ 8 ç 3 Q		2	Ï ^ 8 0 c ¦ Ÿ ö w] œ
7	$ VWURVSKHULF DQG2 FHDQF 6FLHQFH / HWWHUV Ö w ä º | ³ 0 Ù q ç 3 Q		3	Ö w ³ 0
7	&KLQD* HRGRJ\ / ³) ç 3		3	) 0
7	&7 8 â 0 ë Y N		3	ñ 0 c Ï ^ 8 0
7	(DUWK DQG3ODQHWDU 3K\VLFV Ï 0 û ò ^ 8 ç 3		3	Ï ^ 8 0
7	(DUWKTXDNH5 HVHDUFK $ GYDQFHV ñ Y N) º ç 3		3	ñ 0 c Ï ^ 8 0
7	(DUWKTXDNH6FLHQFH ñ 0 q ç 3 Q		3	ñ 0 c Ï ^ 8 0
7	* HRGHV DQG* HRG\QDPLFVÖ h 0 Ï N O 0 ç 3 Q		3	ñ 0 c Ï ^ 8 0
7	-RXUQDORI * URXQGZ DWU6FLHQFH DQG(QJLQHHULQJ • ³ 0 0] Q		M	) 0
7	-RXUQDO0 DULQH6FLHQFHDQG $ SSOLFDWLRQ· š ¾] Q Ö 0 0		7	º | ³ 0 c 3 0

<4Ý	U @C0&	,661 (,661	&1	œ0 N¼
	q ç 3 Q			
7	-RXQDORI 7URSLFDO HWURORJ\ Ûw À 0 q ç 3 Q		3	Öw³ 0
7	3DDHRZ RUGY ~ ·	;	M	~ “ ^ 0
7	6FLHQFHVLQ&RGDQG$UG 5HJLRQVÅÌ Õ³ 0 ç 3 Q		3	) 0
7	J 8] Ö0 0 q ‘ ö³ 0 Q		1	à V] Q• ì
7	r / y ½		3	Öw³ 0
7	Â‹ RÒ		3	Ï ^ 8 0
7	ð à 0 [Å%] Q0 q		7'	à V] Q• ì
7	= • ì		7(	Ï ^ 8 0
7	F r 0 ‹ ”)		3	) 0
7	Ö h0 Ï NO0		3	Ï ^ 8 0
7	Öw³ 0 0 q		3	Öw³ 0
7	Öw0 , B› 0 0 q		2	Öw³ 0
7	Ï , B 0 q		;	Ï ^ 8 0 c [¦ à ^
7	Ï ³ 0 0 , B 0 q		3	à ^ c [¦ c à • 0 c Ï ^ 8 0
7	Ï ^ 8 0) º		3	Ï ^ 8 0
7	Ï ðo³ 0 0 q		3	Ï ^ 8 0
7	Ï 0 , B		3	) 0 c à ^ c [¦ c à • 0
7	ñ		3	ñ 0 c Ï ^ 8 0
7	ñ] Q0 q		3	ñ c Ï ^ 8 0
7	ñ] Q0] Qò N		3	ñ c Ï ^ 8 0
7	ñ Y N		3	ñ c Ï ^ 8 0
7	) ³ • ¹ q		3	) 0
7	) ³ 0		3	) 0
7	) O0 0 q		3	) 0
7	) ¹ q		3	) 0
7	) 0 œ		3	) 0
7	) 0 ž p		3	) 0
7	) 0 ‡ W		3	) 0
7	) Óà â ·		3	) 0
7	J z ¦ Ö0 0 q		7(	¦ Ÿ ö w] œ
7	½y È y] Q0 q		3	ñ 0 c Ï ^ 8 0
7	Ä ! ë à		7'	à V] Q• ì
7	$ Ì w À		3	Öw³ 0
7	: Î) 0 q		3	) 0
7	: P V wÀ Y N		3	Öw³ 0
7	] Q) 0 q		3	) 0
7	] à ‘ N $	;	73	à V] Q• ì
7	¬ <)		3	) 0

<4Ý	U @C0&	, 661 (, 661	&1	œ0 N¼
7	© • 8] Ö 0 0 q		1	à ^ c [¦ c à • 0
7	³ Ò ‡ W³ • • 8		1	) 0
7	º - w)		3	¦ Ÿ ö w] œ
7	º |) • a		3	º | ³ 0 c 3 0
7	º |) 0)		3	º | ³ 0 c 3 0
7	º |] Q		3	º | ³ 0 c 3 0
7	º | , B ³ 0		;	º | ³ 0 c 3 0
7	º | ³ 0		3	º | ³ 0 c 3 0
7	º | ³ 0) º		3	º | ³ 0 c 3 0
7	º | ¹ q		3	º | ³ 0 c 3 0
7	º | 0 Y N	;	3	º | ³ 0 c 3 0
7	º | G q		3	º | ³ 0 c 3 0
7	ê z] Q Ö 0 0 q ‘ ö ³ 0 Q		1	à V] Q • ì
7	ê º Ö 0 0 q ‘ ö ³ 0 Q		79	à ^ c [¦ c à • 0
7	ê ’ 8] Ö 0 0 q ‘ ö ³ 0 Q		1	à V] Q • ì
7	ñ £ Þ ³ • Ö 0 0 q		7'	à V] Q • ì
7	’ ³ • Ö 0 0 q ‘ ö ³ 0 Q		1	à V] Q • ì
7	Û ³ 0		3	º | ³ 0 c 3 0
7	z ñ ³ 0		3	ñ 0 c Ï ^ 8 0
7	’ ñ		3	ñ 0 c Ï ^ 8 0
7	, B $ 0		;	à ^ c [¦ c à • 0
7	} • Ö 0 0 q Ï ³ 0 Q		3	) 0 c Ï ^ 8 0
7	~ Y N		3	º | ³ 0 c 3 0
7	J • ì		7'	à V] Q • ì
7	! ë à V	7'		à V] Q • ì
7	ž ³ 0 • ì		7)	) 0
7	Â · ³ 0 0 q		9	Ï ^ 8 0
7	à ! l 0 F		7'	à V] Q • ì c à ^ c [¦ c à • 0
7	à ! ž		7'	) 0 c à V] Q • ì c Ï ^ 8 0
7	à ! 0)		7'	à V] Q • ì c [¦ à ^
7	à ! ˜ æF		7'	) 0 c r c à ^ c [¦ c à • 0
7	à ^ 0 q		3	à ^ c [¦ c à • 0
7	à ^ [¦		7'	à ^ c [¦ c à •

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				0
7	à œ æ0 , l		7'	à V] Q • ì
7	à œY N 0 —Ÿ		7'	à V] Q • ì
7	ð \ 8] Ö 0 0 q ‘ ö ³ 0 Q	;	1	à ^ c [¦ c à • 0
7	r Á] Q • ì Ö 0 0 q ‘ ö ³ 0 Q		1	à V] Q • ì
7	à æ	;	7'	à V] Q • ì
7	à o à		7'	à V] Q • ì
7	r : ý B		*	à V] Q • ì
7	r] Q		7'	à V] Q • ì
7	r • ì		7'	à V] Q • ì
7	r < – Y N		)	à V] Q • ì
7	r g $		74	à V] Q • ì
7	Ÿ W, B l		;	à V] Q • ì
7	Ÿ W0 , l		7.	à V] Q • ì
7	w - $ Y N) º		3	Öw ³ 0
7	w 0 , B Y N		3	Öw ³ 0
7	w À		3	Öw ³ 0
7	w À ³ •		3	Öw ³ 0
7	w À ³ 0		3	Öw ³ 0
7	w À 0 , B ³ 0		3	Öw ³ 0
7	w À 0 , B 0 q	;	3	Öw ³ 0
7	Û º	0 q		3	º	³ 0 c 3 0
7	Û w À 0 q		3	Öw ³ 0
7	L q 0 Ó = w À		3	Öw ³ 0
7	V J ³ • Ö 0 0 q ‘ ö ³ 0 Q		1	à V] Q • ì
7	¦ ³ 0 ¹ q		7(	¦ Ÿ ö w] œ
7	¦ ¬ r)		7(	¦ Ÿ ö w] œ
7	¦ ^ p		7(	Ï ^ 8 0 c ¦ Ÿ ö w] œ
7	¦ § p • ì		7(	¦ Ÿ ö w] œ
7	· ñ] Q		3	ñ 0 c Ï ^ 8 0
7	·)		3	) 0
7	· â) ³ 0		7/	) 0
7	³ 0) º		3	Ï ^ 8 0
7	3)] Q)		3	) 0
7	^ P 8] Ö 0 0 q		1	à V] Q • ì
7	§ p] Q		7'	) 0
7	Ÿ ö w Ï ³ 0		7(	¦ Ÿ ö w] œ
7	Ÿ 3 0 q		3	Ÿ 3 0
7	Ÿ 3 0) º		3	Ÿ 3 0
7	˜ ~ “ ^ 0 q		4	~ “ ^ 0
7	^ p 0 $ p		3	) 0 c Ï ^ 8 0

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7	f ³ • Ö 0 0 q		1	à V] Q • ì
7	f ¦ Ö 0 0 q ‘ ö ³ 0 Q	;	7(	¦ Ÿ ö w] œ
7	f z Ö 0 0 q ‘ ö ³ 0 Q	;	1	) 0 c à ^ c [¦ c à • 0
7	f z)		3	) 0
7	f ’ ¦ Ö 0 0 q ‘ ö ³ 0 Q		7(	¦ Ÿ ö w] œ
7	£ Ý)		3	) 0
7	£ Ý à œ		7'	à V] Q • ì
7	í ß)		3	) 0
7	[à Ë		7'	à ^ c [¦ c à • 0
7	[ÿ w ÿ		7(	¦ Ÿ ö w] œ
7	ë º	0 0 q		3	º	³ 0 c 3 0
7	ë w À 0 q		3	Ö w ³ 0
7	w) 0 ð Ì Ñ		7(	¦ Ÿ ö w] œ
7	à)		7/	à ^ c [¦ c à • 0
7	D ! ë * à æ Ó		7)	à ^ c [¦ c à • 0
7	y ½ 0	;	3	ñ 0 c Ï ^ 8 0
7	ñ y ½ > • ì		3	ñ c Ï ^ 8 0
7	/ " V w À		3	Ö w ³ 0
7	/ ³ ñ		3	ñ c Ï ^ 8 0
7	/ ³) y ½ 0 ½ - 0 q		3	) 0
7	/ ³ ³ Ò ‡ W< –		)	) 0
7	/ ³ º	Ö 0 0 q ‘ ö ³ 0 Q		3	º	³ 0 c 3 0
7	/ ³ à œ		7'	à V] Q • ì
7	/ ³ w		7'	à V] Q • ì
7	/ ³ r	;	7'	à V] Q • ì
7	/ ³ r)		7'	à V] Q • ì
7	/ ³ Ê œ w À		6	Ö w ³ 0
7	/ ³ ¦ ž p		7(	¦ Ÿ ö w] œ
7	/ ³ [		3	à ^ c [¦ c à • 0
7	‡ W 0 ! œ		7'	à V] Q • ì
7	‘ ö y ½ 0 q		;	ñ 0
7	‘ ö ‡ W Š +	;	3	) 0
7	$ Q MURSRFHQH&RDWV í · º ! ç 3		M	º	³ 0 c 3 0
7	JOREDOJHROR\ ·) ç 3 Q		3	) 0
7	0 DULQH6FLHQFH%XOOHWLQ º	¹ q ç 3 Q		1	º	³ 0 c 3 0
7	1 DXUDO* DV,QGXVW %Ÿ ö w] œ %ç 3		M	¦ Ÿ ö w] œ

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7	3HWURO\P 5HVHDUFK¦ Y N ç 3		7(	¦ Ÿ ö w] œ
7	3HWURO\P w ç 3		7(	¦ Ÿ ö w] œ
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7	4XDUWHUQDU\ *HRFKURQRORJ\		*(2*5$3+< 3+<6,&$/ *(26&,(1&(6 08/7,' ,6&,3/,1$5<
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7	6ZLW-RXUQDORI *HRVFLHQFHV		*(26&,(1&(6 08/7,' ,6&,3/,1$5<
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	,QVMUQDWRQDO-RXUQDORI) DWJXH	ç ³	
	QSM0 DVMUDOY" HJUDGDWRQ	/ ³	
	3ROP HU' HJUDGDWRQ DQG6VDELOWV	ç ³	
7 ´ 3 L{ @ C ÂM"n H ?·,º E¹Q "j © y 7 U @µ			
	$ FWD0 HWDOXUJLFD6LQLFD (QJOVK / HWHUV	/ ³	
	$ QVV&RUURVLRQ0 HWKRGVDQG0 DVMUDOY	ç ³	
	&RQWWKFWRQ DQG%XLOGLQJ 0 DVMUDOY	ç ³	
	&RUURVLRQ	%³	
	&RUURVLRQ(QJLQHHULQJ 6FLHQFH DQG7HFKQRORJ\	ç ³	;
	) DWJXH) UDFWXUH RI (QJLQHHULQJ 0 DVMUDOY 6WKFWXUHV	ç ³	;
	,QVMUQDWRQDO%LRGHWHULRUDWRQ %LRGHJUDGDWRQ	ç ³	
	,QVMUQDWRQDO-RXUQDORI +\ GURJHQ(QHJ\	ç ³	
	,QVMUQDWRQDO-RXUQDORI 0 LQHUDOY0 HWDOXUJ\ DQG 0 DVMUDOY	/ ³	
	-RXUQDORI $ OR\ VDQG&RP SRXQGV	+ ¶	
	0 DVMUDOYDQG&RUURVLRQ: HUNWRII HXQG. RUURVLRQ	³	
	0 DVMUDOY&KDUDFWHUL DWRQ	%³	
	0 DVMUDOY&KHP LWW DQG3K\ VLFV	+ ¶	
	+LJK7HP SHUDWXUH&RUURVLRQRI 0 DVMUDOY	%³	
7 ´ 3 » L H ?· = p œe+, v AÚ%,º U @µ			
	&RUURVLRQ5HYLHZ V	ç ³	
	(QJLQHHULQJ) DLOXUH$ QDOVLV	ç ³	
	-RXUQDORI 0 DVMUDOY(QJLQHHULQJ DQG3HUIRUP DQFH	%³	

	0 HWDOY	+ ¶	
	6\QWKHWLF 0 HWDOY	+ ¶	
	7UDQVDFWLRQV RI 1RQHUURXV0 HWDOY6RFLHWLHV RI &KLQD	/ ³	
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	$&6 $SSOLHG0 DWHULDOV ,QWHUIDFHV	%³	
	$SSOLHG6XUIDFH6FLHQFH	à	
	&KHPLFDO(QJLQHHULQJ -RXUQDO	+ ¶	
7 ´ 3 L{ @ C ÂM"n H ?·,º E¹Q "j © y 7 U @µ			
	$GYDQFHG0 DWHULDOV,QWHUIDFHV	³	
	%LRIRXOLQJ	ç ³	
	&RORLGV DQG 6XUIDFHV $ 3K\VLFRFKHPLFDO DQG(QJLQHHULQJ $\SHFWV	à	
	&RORLGV/DQG6XUIDFHV%%LRLQWHUIDFHV	à	
	-RXUQDORI &RORLGDQG,QWHUIDFH6FLHQFH	%³	
	-RXUQDORI ,QGXVWULDODQG(QJLQHHULQJ &KHPLVWU\	Â ³	;
	-RXUQDORI 0 DWHULDOV6FLHQFHDQG7HFKQRORJ\	/ ³	
	3URJUHVVLQ6XUIDFH6FLHQFH	%³	
	6XUIDFHV/DQG,QWHUIDFHV	à	
	6XUIDFH &RDWLQJV7HFKQRORJ\	+ ¶	
	6XUIDFH6FLHQFH5HSRUWV	à	
	7KLQ6RLG) LOPV	à	
7 ´ 3 » L H ?· = p œe +, v AÚ%,º U @µ			
	&RDWLQJV	+ ¶	
	-RXUQDORI &RDWLQJV7HFKQRORJ\ DQG5HVHDUFK	%³	

	-RXUQDORI 7KHUPDO6SUD\ 7HFKQRORJ\	%³	
	6XUIDFHDQG,QWHUIDFH$QDO\VLV	ç ³	
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	&RUURVLRQ6FLHQFH	ç ³	;
	(OHFWURFKLPLFDO$FWLY	ç ³	
	-RXUQDORI VWH(OHFWURFKHPLFDO6RFLHWLHV	%³	
7 ´ 3 L{ @ C ÂM"n H ?·,º E¹Q "j © y 7 U @µ			
	$QDO\WLFD&KLPLFD$FWD	à	
	%LRHOHFWURFKHPLVWU\	à	
	&KHP (OHFWUR&KHP	³	
	(OHFWURFKHPLVWU\ &RPPXQLFDWLRQV	%³	
	-RXUQDORI (OHFWURDQDO\WLFDO&KHPLVWU\	+ ¶	
	-RXUQDORI 3K\VLFDO&KHPLVWU\ &	%³	
7 ´ 3 » L H ?· = p œe +, v AÚ%,º U @µ			
	(OHFWURDQDO\VLV	%³	
	,QWHUQDWLRQDO-RXUQDORI (OHFWURFKHPLFDO6FLHQFH	6 š P	
	-RXUQDORI 6RIG6\VWHP(OHFWURFKHPLVWU\	³	
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	$ &6 $ SSOHG0 DMULDOY ,QMUDFH-V	%³	
	$ SSOHG6XUFH6FLHQFH	à	
	&KHPLFDO(QJLQHHULQJ-RXUQDO	+ ¶	
	&RPSRVLWH6FLHQFHDQG7HFKQRORJ\	ç ³	
	-RXUQDORI 0 DMULDOY&KHPLVWU $	ç ³	
	3URJUHVVLQ2UJDQLF&RDWQJV	+ ¶	
7 ´ 3 L{ @ C ÂM"n H ?·,º E¹Q "j © y 7 U @µ			
	&RDWQJV	+ ¶	
	&RPSRVLWH3DUW$ $SSOHG6FLHQFHDQG0 DQXIDFWXULQJ	ç ³	;
	&RPSRVLWH3DUW%(QJLQHHULQJ	ç ³	
	' \HVDQG3LJPHQWV	ç ³	
	,QGXVWULDO (QJLQHHULQJ &KHPLVWU 5HVHDUFK	%³	
	-RXUQDORI $SSOHG3RO PHU6FLHQFH	%³	
	-RXUQDORI &RDWQJV7HFKQRORJ\ DQG5HVHDUFK	%³	
	-RXUQDORI &RORLG DQG,QMHFWLRQ6FLHQFH	%³	
	-RXUQDORI (OHFWURDQDO\WLFDO&KHPLVWU	+ ¶	
	-RXUQDORI + DJDUGRXV0 DMULDOY	à	
	-RXUQDORI 0 DMULDOY&KHPLVWU %	ç ³	;
	-RXUQDORI 0 DMULDOY&KHPLVWU &	ç ³	
	6XUIDFH &RDWQJV7HFKQRORJ\	+ ¶	
	6XUIDFH6FLHQFH5HSRUWV	à	
	7KLQ6RLG) LOPV	à	
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	-RXUQDORI 3RO PHU5HVHDUFK	/ ³ [ö	
	-RXUQDORI 6RO* HO6FLHQFHDQG7HFKQRORJ\	%³	
	3RO PHUVIRU$GYDQFHG7HFKQRORJLHV	ç ³	
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	9 HKLFOH6\ VWHP ' \ QDPLFV	ç ³	
	,(((7UDQVDFWLRQVRQ9 HKLFXODU7 HFKQRORJ\	%³	
	,QIUDVWUXFWXUHRI 9 HKLFOH' HVLJQ	+ ¶	
	$ XWRP RWLYH,QQRYDWLRQ	/ ³ Ö Ä	
	H7UDQVSRUWDWLRQ	à	
	-RXUQDORI ,QIRUDWHQW &RQQHFWHG9 HKLFOHV	ç ³	
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	3URFHHGLQJV RI WKH ,QWHUQDWLRQ RI 0 HFKDQLFDO(QJLQHHUV 3DUW -RXUQDORI $ XWRP RELOH(QJLQHHULQJ	ç ³	
	,QIUDVWUXFWXUHRI $ XWRP RWLYH7 HFKQRORJ\	Â ³	
	,(((9 HKLFXODU7 HFKQRORJ\ 0 DJD]LQH	%³	
	,QIUDVWUXFWXUHRI + HDY\ 9 HKLFOH6\ VWHP V	%³	;
	,(((7UDQVDFWLRQVRQ7UDQVSRUWDWLRQ(OHFWULILFDWLRQ	%³	
	&RP EXWLRQDQG) OP H	%³	
	,(7 ,QIUDVWUXFWXUH7UDQVSRUW6\ VWHP V	ç ³	;
	,QIUDVWUXFWXUHRI 0 HFKDQLFDO6FLHQFHV	ç ³	
	-RXUQDORI ,QIUDVWUXFWXUH7UDQVSRUWDWLRQ6\ VWHP V	%³	
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	$SSOH-G(QHUJ\	/ ³ (o] Q 0 V	7
	(QHUJ\	/ ³ (o] Q 0 V	7
	(QHUJ\ &RQVHUYDWRQDQG0DQDJHPHQW	/ ³ (o] Q 0 V	7
	)XHO	/ ³ (o] Q 0 V	7
	-RXUQDORI3RZHU6RXUFHV	/ ³ (o] Q 0 V	7
	5HQHZDEOH 6XVWDLQDEOH(QHUJ\5HYLHZV	/ ³ (o] Q 0 V	7
	,QWHUQDWLRQDO-RXUQDORI+\GURJHQ(QHUJ\	/ ³ (o] Q 0 V	7
	,(((7UDQVDFWLRQV3RZHU(OHFWURQLFV	/ ³ (o] Q 0 V	7
	/ ³ (o] Q 0 q	/ ³ (o] Q 0 V	7
	$GYDQFHG(QHUJ\ 0DWHULDOV	/ ³ (o] Q 0 V	7
	5HQHZDEOH(QHUJ\	/ ³ (o] Q 0 V	7
	,QWHUQDWLRQDO-RXUQDORI(QHUJ\5HVHDUFK	/ ³ (o] Q 0 V	7
	)XHO&HOOV	/ ³ (o] Q 0 V	7
	o à] Q 0 q	/ ³ o à] Q 0 V	7
	&KLQHVH-RXUQDORI0HFKDQLFDO(QJLQHHULQJ	/ ³ o à] Q 0 V	7
	/ ³ o à] Q	/ ³ o à] Q 0 V	7
	,(((7UDQVDFWLRQV,QWHUQDWLRQDO7UDQVSRUWDWLRQ6\VWHPV	/ ³ ‘ N $ 0 V	$
	,(((,QWHOOLJHQW7UDQVSRUWDWLRQ6\VWHPV0DJD]LQH	/ ³ ‘ N $ 0 V	$
	,(((7UDQVDFWLRQV&RQWURO6\VWHPV7HFKQRORJ\	/ ³ ‘ N $ 0 V	$
	,(((7UDQVDFWLRQV$XWRPDWLF&RQWURO	/ ³ ‘ N $ 0 V	$
	‘ N $ 0 q	/ ³ ‘ N $ 0 V	$
	,((($VPH7UDQVDFWLRQV0HFKDWURQLFV	/ ³ ‘ N $ 0 V	$
	,(((7UDQVDFWLRQV,QGXVWULDO,QIRUPDWLFV	/ ³ ‘ N $ 0 V	$
	1RQOLQHDU' \QDPLFV	/ ³ ‘ N $ 0 V	$
	,(((7UDQVDFWLRQV6LJQDO3URFHVVLQJ	/ ³ ‘ N $ 0 V	$
	,(((,QGXVWULDO(OHFWURQLFV0DJD]LQH	/ ³ ‘ N $ 0 V	$
	,(((5RERWLFV $XWRPDWLRQ0DJD]LQH	/ ³ ‘ N $ 0 V	%
	Å %0 …	/ ³ ‘ N $ 0 V	%
	$FWD0DWHULDOD	/ ³ D ! ë 0 V	7

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	9 HKLFOH6\ VWP ' \ QDP LFV	
	-RXUQDORI &HQWUDO6RXWK8QLYHUVLW	
	,(((,QGXVWULDO(QJLQHHULQJ DJJ]LQH	
	&RPSXWHU$LGHG&LYLODQG,QIUDVWUXFWXUH(QJLQHHULQJ	
	&RPSRVLWH3DUW% (QJLQHHULQJ	
	,(((7UDQVDFWLRQV7UDQVSRUWDWLRQ(QJLQHHULQJ	
	&HPHQWDQG&RQFUHWH5HVHDUFK	
	,(((&RPPXQLFDWLRQV DJJ]LQH	
	7UDQVSRUWDWLRQ5HVHDUFK3DUW&! (PHUJLQJ VWFKQRORJLHV	;
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	,(((7UDQVDFWLRQV,QIRUPDWLRQ7UDQVSRUWDWLRQ6\ VWP V	
	,(((: LUHOHVV&RPPXQLFDWLRQV	
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	7UDQVSRUWDWLRQ5HVHDUFK3DUW% 0 HWRGRORJLFDO	
	&HPHQW &RQFUHWH&RPSRVLWH	
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	,(((-RXUQDORQ6HOHFWHG$UHDVLQ&RPPXQLFDWLRQV	
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	,(((7UDQVDFWLRQV,QIRUPDWLRQ(QJLQHHULQJ	
	,(((7UDQVDFWLRQV3RZHU(OHFWURQLFV	
	,(((7UDQVDFWLRQV3RZHU6\ VWP V	
	-RXUQDORI 6RXQG DQG9LEUDWLRQ	;
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	7UDQVSRUWDWLRQ5HVHDUFK3DUW(/ RJLVWLFV DQG7UDQVSRUWDWLRQ5HYLHZ	
	7XQQHOOLQJ DQG8QGHUJURXQG6SDFH7HFKQRORJ\	

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	,(((7UDQVDFWLRQVRQ,QGXVWULDO,QFRUPDWLFV	
	7UDQVSRUWDWLRQ6FLHQFH	
	7UDQVSRUW3RODF\	;
	,(((7UDQVDFWLRQVRQ:LUHOHVV&RPPXQLFDWLRQV	
	7UDQVSRUWDWLRQ5HVHDUFK3DUW!7UDQVSRUWDQG(QYLURQPHQW	
	7UDQVSRUWDWLRQ5HVHDUFK3DUW$!3RODF\DQG3UDFWLFH	
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	&RQWUDFWRQDQG%XLOGLQJ0DWHULDOV	
	5RFN0HFKDQLFVDQG5RFN(QJLQHHULQJ	
	(XURSHDQ-RXUQDORI2SHUDWLRQDO5HVHDUFK	
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	,QWHUQDWLRQDO-RXUQDORI(OHFWULFDO3RZHU (QHUJ\6\VWHPV	
	(OHFWULF3RZHU6\VWHPV5HVHDUFK	
	+LJK9RROWDJH	
	&RPSRVLWH6WUXFWXUHV	
	,QWHUQDWLRQDO-RXUQDORI5DLO7UDQVSRUWDWLRQ	
	5DLZD\(QJLQHHULQJ6FLHQFH	
	-RXUQDORI7UDIILF DQG7UDQVSRUWDWLRQ(QJLQHHULQJ (QJDJH(GLWRQ	
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	-RXUQDORI 5DLODQG5DSLG7UDQVLW	
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	6RLO \QDPLFVDQG(DUWKTXDNH(QJLQHHULQJ	
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	* OREDO&KDQJH%LRORJ\
	(FRQRJLFDO RQRJUDSKV
	0 HWKRGVLQ(FRQRJ\ DQG(YROXWLRQ
	(FRJUDSK\
	* OREDO(FRQRJ\ DQG%LRJHRJUDSK\
	-RXUQDORI $SSOLHG(FRQRJ\
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	&RQVHUYDWLRQ%LRORJ\
	0 RGHFXODU(FRQRJ\
	%LRORJLFDO&RQVHUYDWLRQ
	(FRQRJ\
	(FRV\VWHP 6HUYLFHV
	$P HULFDQ1DWXUDOLVW
	3URFHHGLQJV RI \WH5R\DO6RFLHW\%%LRORJLFDO6FLHQFHV
	) XQFWLRQDO(FRQRJ\
	(FRQRJLFDO$SSOLFDWLRQV
	$JULFXOWXUH(FRV\VWHP V (QYLURQP HQW
	/ DQGVFDSHDQG8 UEDQ3ODQQLQJ
	(FRV\VWHP V
	-RXUQDORI %LRJHRJUDSK\
	(YROXWLRQ
	/ DQGVFDSH(FRQRJ\
	%LRJHRVFLHQFHV
	(FRV\VWHP +HDOWK DQG6XVWDLQDELOLW\

	) RUHWW(FRV\ VWMP V
	-RXUQDORI $ QLP DO(FRORJ\
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	%LRORJ LFDO,QYDVLRQV
	%LRGLYHUVLWV DQG&RQVHUYDWRQ
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	0 DP P DO5 HYLHZ
	,QWHUQDWRQDO-RXUQDORI 6XVWDLQDEOH' HYHORSP HQWDQG: RUOG(FRORJ\
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	$ GYDQFHV LQ (FRORJ LFDO 5 HVHDUFK
	5 HP RVH 6 HQVLQJ LQ (FRORJ \ DQG &RQVHUYDWRQ
	&XUUHQW2 SLQLRQ LQ , QVHFW6 FLHQFH
	) RUHVW(FRORJ \ DQG 0 DQDJHP HQW
	-RXUQDORI) RUHVWU 5 HVHDUFK
	(FRORJ LFDO 3 URFHVVHV
	' LYHUVLW DQG ' LVWLEXWRQV
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	) URQWHUV LQ (FRORJ \ DQG (YROXWRQ
	(FRORJ \ DQG (YROXWRQ
	0 DULQH (FRORJ \ 3 URJUHVV 6 HULHV
	-RXUQDORI : LOGOLI H 0 DQDJHP HQW
	: LOGOLI H 0 RQRJUDSKV
	2 5 < ;
	$ R% 3 ODQW
	-RXUQDORI &KHP LFDO (FRORJ \
	%LRWURSLFD
	%0 & (FRORJ \
	3 DOHRELRORJ \
	, QVHUQDWRQDO-RXUQDOI RU 3 DUDVLWRORJ \ 3 DUDVLWHV DQG : LOGOLI H
	) UHVKZ DWHU 6 FLHQFH
	3 RODU %LRORJ \
	: LOGOLI H 5 HVHDUFK
	) LUH (FRORJ \
	$ TXDFXOWXUH (QYLURQP HQW, QVHUDFWRQV
	(FRORJ LFDO, QGLFDWRUV
	+ \ GURELRORJ LD
	/ ³ “ _ Ê œ 0 q
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	%XOOHWQ RI VKH $ P HULFDQ 0 XVHXP RI 1 DWXUDO+ LWRU

	(XURSHDQ-RXUQDORI 6RLO%LRORJ\
	%HKDYLRUDO(FRORJ\ DQG6RFLHWLRORJ\
	-RXUQDORI ([SHULP HQWDO DQLP%LRORJ\ DQG(FRORJ\
	+ HUHGLW\
	/ DQGVFDSHDQG(FRORJLFDO(QJLQHHULQJ
	-RXUQDORI 6RLODQG: DWHU&RQVHUYDWLRQ
	5DQJHDQG(FRORJ\ 0 DQDJHP HQW
	&KHP RI-FRORJ\
	3HGRELRORJLD
	%XOOHWLQRI WKH3HDERG\ 0 XVHXP RI 1DWXUDO+LVWRU\
	(FRK\ GURORJ\ + \ GURELRORJ\
	$ TXDWF,QYDVLRQV
	-RXUQDORI %LRORJLFDO \QDP LFV
	$ TXDWF0 LFURELDO(FRORJ\
	-RXUQDORI $ UG(QYLURQP HQW
	3ODQW6SHFLHV%LRORJ\
	(YROXWLRQDU (FRORJ\
	: HWODQGV
	$ UFWF6FLHQFH
	) OXID
	(FRORJLFDO5HVHDUFK
	(FRORJLFDO&RP SOH[LW
	: (%(FRORJ\
	$ XWDQ(FRORJ\
	(QYLURQP HQWDO%LRORJ\ RI) LVKHV
	1 HZ =HDODQG-RXUQDORI (FRORJ\
	3ODQW(FRORJ\
	7KHRUHWFDO3RSXODWLRQ%LRORJ\
	$ TXDWF(FRORJ\
	5HYLVWD&KLOHQD' H+ LVWRULD1 DWXUDO
	3K\ WRFKHPRORJLD
	' LYHUVLW\ %DVHO
	&KHP LWWU DQG(FRORJ\
	3RODU6FLHQFH
	(XURSHDQ-RXUQDORI : LOGOLIH5HVHDUFK
	$ IUFDQ-RXUQDORI 5DQJH) RUHVW6FLHQFH
	0 DULQH%LRORJ\ 5HVHDUFK
	3RSXODWLRQ(FRORJ\
	: LOGOLIH%LRORJ\

	(FRVFLHQFH
	-RXUQDORI) UHVKZDWHU(FRORJ\
	$ FWD2 HFRORJLFD,QWHUQDWLRQDO-RXUQDORI (FRORJ\
	5HJLRQDO6WXGLHVLQ0 DULQH6FLHQFH
	-RXUQDORI 7URSLFDO(FRORJ\
	3RODU5HVHDUFK
	7KHRUHWLFDO(FRORJ\
	(YROXWLRQDU\ (FRORJ\ 5HVHDUFK
	5DQJHDQG-RXUQDO
	(FRORJLFDO0 DQDJHPHQW 5HVWRUDWLRQ
	%LRFKHPLFDO6\VWHPDWLFVDQG(FRORJ\
	3RODU3RODU5HVHDUFK
	-RXUQDORI 1DWXUDO+LVWRU\
	3URFHHGLQJVRI WKH$FDGHP\ RI 1DWXUDO6FLHQFHVRI 3KLODGHOSKLD
	&RP SRVW6FLHQFH 8WLOL]DWLRQ
	$ QQDOVRI=RRORJLFDO) HQQLFL
	+ XP DQ: LOGOLIH,QVWLWXWLRQV
	&RP P XQLW\ (FRORJ\
	3RODU5HFRUG
	-RXUQDORI) LVK DQG: LOGOLIH0 DQDJHPHQW
	(FRORJLFDO5HVWRUDWLRQ
	$ FWD$ P D]RQLFD
	1DWXUDO$ UHDV-RXUQDO
	$ IULFDQ-RXUQDORI (FRORJ\
	$ SSOLHG(FRORJ\ DQG(QYLURQP HQWDO5HVHDUFK
	$ IULFDQ-RXUQDORI : LOGOLIH5HVHDUFK
	$ P HULFDQ0 LGDQG1DWXUDOLVW
	(FR P RQV-RXUQDORQ3URWHFWHG0 RXQWDLQ$ UHDV5HVHDUFK
	&RQWP SRUDU\ 3UREOHP VRI (FRORJ\
	-RXUQDORI 5HVRXUFH-VDQG(FRORJ\
	: HWDQGV(FRORJ\ DQGP DQDJHP HQW
	$ TXDWF%RWDQ\
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	$' 9$1&(6,1 ' 7 1/<6,6$1' &/$66,),&$7,21		
	$/($/$7,1$0(5,&$1 -2851$/ 2) 352%$%/,7< $1' 0$7+(0$7,&$/ 67$7,67,&6		
	11/62) 7+(,167,787(2) 67$7,67,&$/ 0$7+(0$7,&6		
	$33/,(' 672&+$67,&02' (/6,1 %86,1(66$1' ,1' 8675<		
	8675/,$1 1(: =($/$1' -2851$/ 2) 67$7,67,&6		
	%20(75,&$/ -2851$/		
	%267$7,67,&6 (3,'(0,2/2*< “ ^ Ä ™0 û È 0 ç 3		
	&200 81,&$7,216,1 67$7,67,&6 7+(25< $1' 0(7+2' 6		
	&20387$7,21$/ 67$7,67,&6		
	&20387$7,21$/ 67$7,67,&6 ' 7 1/<6,6		
	(/(&7521,&&200 81,&$7,216,1 352%$%/,7<		;
	(/(&7521,&-2851$/ 2) 67$7,67,&6		
	(;75(0(6		
	,1),1,7(',0(16,21$/ 1/<6,648$1780 352%$%/,7< $1' 5(/$7(' 723,&6		
	,17(51$7,21$/ 67$7,67,&$/ 5(9,(:		
	-2851$/ 2) $33/,(' 352%$%/,7<		
	-2851$/ 2) $33/,(' 67$7,67,&6		
	-2851$/ 2) &$86$/ ,1)(5(1&(		
	-2851$/ 2) 1213$5$0(75,&67$7,67,&6		
	-2851$/ 2) 5,6. $1' ,1685$1&(		
	-2851$/ 2) 67$7,67,&$/ &20387$7,21 $1' 6,08/$7,21		
	-2851$/ 2) 67$7,67,&$/ 3/$11,1* $1' ,1)(5(1&(		
	/,)(7,0(' 7 1/<6,6		
	0$5.29 352&(66(6$1' 5(/$7('),(/'6		
	0(75,. $		
	2;)25' %8//(7,12) (&2120,&6$1' 67$7,67,&6		
	5$1' 20 0$75,&(67+(25< $1' $33/,&$7,216		
	5,6. 1/<6,6		
	67$7		
	67$7,67,&$/ ,1)(5(1&( )25 672&+$67,&		

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	352&(66(6		
	67$7,67,&$/ 0(7+2'6,10(',&$/ 5(6($5&+		
	67$7,67,&$/ 02'(//,1*		;
	67$7,67,&$/ 3$3(56		
	67$7,67,&6 352%$%/,7</(77(56		
	67$7,67,&6$1',76,17(5)$&(		
	672&+$67,&$1$/<6,6$1'$33/,&$7,216		
	672&+$67,&02'(/6		
	672&+$67,&6$1''<1$0,&6		
	672&+$67,&6$1'3$57,$/',))(5(17,$/ (48$7,216$1$/<6,6$1'&20387$7,216		
	672&+$67,&6$1,17(51$7,21$/-2851$/2) 352%$%/,7<$1'672&+$67,&352&(66(6		
	7+(25<2) 352%$%/,7<$1',76$33/,&$7,216		;
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	$&7$180(5,&$		
	$5&+,9()255$7,21$/0(&+$1,&6$1' 1/<6,6		
	&6,$0 75$16$&7,21621$33/,(' 0$7+(0$7,&6 &6,$0ë ô0Vœ ç3		
	,19(56(352%/(06		
	-2851$/2)&20387$7,21$/0$7+(0$7,&6 ™8ô0 ç3Q	2	
	0$7+(0$7,&$/02'(/6 0(7+2'6,1$33/,(' 6&,(1&(6		
	0$7+(0$7,&$/352*5$00,1*		
	0$7+(0$7,&62)&20387$7,21		
	0$7+(0$7,&62)23(5$7,2165(6($5&+		;
	180(5,6&+(0$7+(0$7,.		;
	6,$0-2851$/21$33/,(' 0$7+(0$7,&6		
	6,$0-2851$/21180(5,&$/$1$/<6,6		
	6,$0-2851$/216&,(17,),&&20387,1*		
	6,$05(9,(:		

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	$&7$ 0$7+(0$7,&$($33/,&7(6,1,&$ (1*/,6+ 6(5,(6 ë ô 0 0 q ç 3 Q	2	
	$' 9$1&(6,1 $33/,(' 0$7+(0$7,&6		
	$' 9$1&(6,1 $33/,(' 0$7+(0$7,&6$1' 0(&+$1,&6		
	$' 9$1&(6,1 &20387$7,21$/ 0$7+(0$7,&6		
	11/(6'(/,167,787+(15, 32,1&$5(1/<6(121/,1($,5(		
	$33/,(' $1' &20387$7,21$/ +$5021,& 1/<6,6		
	$33/,(' 0$7+(0$7,&6$1' 237,0,=$7,21		
	$33/,(' 180(5,&$/ 0$7+(0$7,&6		
	%7180(5,&$/ 0$7+(0$7,&6		
	&2008 1,&$7,216,1 0$7+(0$7,&$/ 6&,(1&(6		
	&20387$7,21$/ 237,0,=$7,21 $1' $33/,&$7,216		
	&216758&7,9($3352;,0$7,21		
	',6&5(7($33/,(' 0$7+(0$7,&6		;
	($67$6,$1 -2851$/ 21 $33/,(' 0$7+(0$7,&6		
	(6$,0 &21752/ 237,0,6$7,21 $1' &$/&8/86 2) 9$5,$7,216		
	(6$,0 0$7+(0$7,&$/ 02'(//,1* $1' 180(5,&$/ 1/<6,6 02'(/,6$7,21 0$7+(0$7,48((7$1$/<6(180(5,48(		;
	),1,7((/(0(176,1 1/<6,6$1' '(6,*1		;
	)281' $7,2162) &20387$7,21$/ 0$7+(0$7,&6		
	)8==<6(76$1' 6<67(06		
	,0$ -2851$/ 2) $33/,(' 0$7+(0$7,&6		
	,0$ -2851$/ 2) 180(5,&$/ 1/<6,6		
	,17(51$7,21$/ -2851$/ 2) 180(5,&$/ 1/<6,6$1' 02'(/,1*		
	,19(56(352%(06$1' ,0$*,1*		
	-2851$/ 2) &20%1$725,$/ 237,0,=$7,21		
	-2851$/ 2))285,(5$1$/<6,6$1' $33/,&$7,216		
	-2851$/ 2) */2%$/ 237,0,=$7,21		
	-2851$/ 2) 0$7+(0$7,&$/ ,0$*,1* $1' 9,6,21		

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	-2851$/ 2) 121/,1($5 6&,(1&(		
	-2851$/ 2) 237,0,=$7,21 7+(25< $1' $33/,&$7,216		
	-2851$/ 2) 6&,(17,),& &20387,1*		
	-2851$/ 2) 6<0%2/,& &20387$7,21		
	.,1(7,& $1' 5(/$7(' 02' (/6		
	121/,1($5,7<		
	180(5,&$/ $/*25,7+06		
	180(5,&$/ /,1($5 $/*(%5$:,7+ $33/,&$7,216		
	180(5,&$/ 0$7+(0$7,&6 7+(25< 0(7+2' 6 $1' $33/,&$7,216 : 0Î ™8 ô 0 0 q ç 3 Q	2	
	237,0,=$7,21 /(77(56		
	237,0,=$7,21 0(7+2' 6 62)7: $5(		
	5$1' 20 6758&785(6 $/*25,7+06		
	6,$0 -2851$/ 21 $33/,(' '<1$0,&$/ 6<67(06		
	6,$0 -2851$/ 21',6&5(7(0$7+(0$7,&6		
	6,$0 -2851$/ 21,0$*,1* 6&,(1&(6		
	6,$0 -2851$/ 21 0$7+(0$7,&$/ 1/<6,6		
	6,$0 -2851$/ 21 0$75,; 1/<6,6$1' $33/,&$7,216		
	678',(6,1 $33/,(' 0$7+(0$7,&6		
	=$00 =(,76&+5,)7)85$1*(: $1' 7(0$7+(0$7,. 81' 0(&+$1,.		

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	$' 9$1&(6,1 121/,1($5 1/<6,6		
	1/<6,6$1' $33/,&$7,216		
	11/62) $33/,(' 0$7+(0$7,&6 ë ô 0 - œ ç 3	2	
	$33/,(' 0$7+(0$7,&6$1' 0(&+$1,&6(1*/,6+(' ,7,21 ë ô 0 ä O0 ç 3	2	
	$33/,(' 0$7+(0$7,&6/(77(56		
	$33/,(' 0$7+(0$7,&6$ -2851$/ 2) &+,1(6(81,9(56,7,(66(5,(6% : Î ë ô 0 0 q %€ ç 3 Q	2	
	$6<0 3727,& 1/<6,6		
	&$/&2/2		
	&200 81,&$7,216,1 1/<6,6$1' 0(&+$1,&6		

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	&20081,&$7,21621 $33/,(' 0$7+(0$7,&6 $1' &20387$7,21 ë ô00™8ô00q ç3	2	
	&20387$7,21$/ $1' $33/,(' 0$7+(0$7,&6		
	&20387$7,21$/ 0(7+2'6,1 $33/,(' 0$7+(0$7,&6		
	',6&5(7(&20387$7,21$/ *(20(75<		
	',6&5(7($1' &217,18286'<1$0,&$/ 6<67(0660(5,(6%		
	(/(&7521,&-2851$/ 2) &20%1$725,&6		
	(/(&7521,&75$16$&7,21621 180(5,&$/ 1/<6,6		
	(8523($1-2851$/ 2) $33/,(' 0$7+(0$7,&6		
	)5$&7,21$/ &$/&8/86$1' $33/,(' 1/<6,6		
	,0-2851/ 2) 0$7+(0$7,&$/ &21752/ $1' ,1)250$7,21		
	-2851$/ 2) $33/,(' 1/<6,6$1' &20387$7,21		;
	-2851$/ 2) &20%1$725,$/ '(6,*16		
	-2851$/ 2) &203/(;,7<		;
	-2851$/ 2) &20387$7,21$/ $1' $33/,(' 0$7+(0$7,&6		
	-2851$/ 2) &5<372/2*<		
	-2851$/ 2)',))(5(1&((48$7,216$1' $33/,&$7,216		
	-2851$/ 2)+<3(5%2/,&',))(5(17,$/ (48$7,216		
	-2851$/ 2)121/,1($502'(/,1* $1' 1/<6,6		
	0$7+(0$7,&$/ 0(7+2'6,17+($33/,(' 6&,(1&(6		
	0$7+(0$7,&$/ 0(7+2'62)23(5$7,216 5(6($5&+		
	121/,1($5$1$/<6,65($/:25/' $33/,&$7,216		
	121/,1($5$1$/<6,67+(25<0(7+2'6 $33/,&$7,216		;
	180(5,&$/ 0(7+2'6)253$57,$/ ',))(5(17,$/ (48$7,216		;
	237,0$/ &21752/ $33/,&$7,216 0(7+2'6		
	237,0,=$7,21		
	3$&,),&-2851$/ 2) 237,0,=$7,21		

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	48$57(5/<2) $33/,(' 0$7+(0$7,&6		;
	: 0Î ™8ô00q /3Q	2	;
	:Î ë ô00q$€ /3Q	2	
	™8ô0 /3Q	2	
	ë ô0	2	
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	%2,1)250$7,&6		
	&200 81,&$7,216,1 &20387$7,21$/ 3+<6,&6		
	&20387(5$,'(' *(20(75,&'(6,*1		
	&20387(50(7+2'6,1 $33/,(' 0(&+$1,&6 $1'(1*,1((5,1*		
	-2851$/ 2) &20387$7,21$/ 3+<6,&6		
	-2851$/ 2) 0$7+(0$7,&$/ %2/2*<		
	-2851$/ 2) 7+(23(5$7,2165(6($5&+ 62&,(7<2) &+,1$ /³nt0VVœ ç3	2	;
	0$7+(0$7,&$/),1$1&(		
	08/7,6&$/(02'(/,1* 6,08/$7,21		
	6,$0 -2851$/ 21 &21752/ $1' 237,0,=$7,21		
	6,$0 -2851$/ 21 237,0,=$7,21		

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	$33/,(' 0$7+(0$7,&$/ 02'(//,1*		;
	$5&+,9(62) &20387$7,21$/ 0(7+2'6,1 (1*,1((5,1*		
	$67,1 %8//(7,1		
	%8//(7,1 2) 0$7+(0$7,&$/ %2/2*<		
	&+$26		
	&20387$7,21$/ 0(&+$1,&6		
	&20387(56)/8,'6		
	'(6,*16&2'(6$1' &5<372*5$3+<		
	,17(51$7,21$/ -2851$/)25180(5,&$/ 0(7+2'6,1 %20(',&$/ (1*,1((5,1*		

Å -	D œ0 Ê+^¦ œ2±7 U @	&1	,661
	,17(51$7,21$/ -2851$/)25 180(5,&$/ 0(7+2' 6,1 (1*,1((5,1*		
	,17(51$7,21$/ -2851$/)25 180(5,&$/ 0(7+2' 6,1)/8,' 6		
	,17(51$7,21$/ -2851$/)25 81&(57$,17< 48$17,),&$7,21		
	,17(51$7,21$/ -2851$/ 2) $3352; ,0$7(5($621,1*		;
	,17(51$7,21$/ -2851$/ 2) %20$7+(0$7,&6		
	,17(51$7,21$/ -2851$/ 2) 180(5,&$/ 0(7+2' 6)25 +($7)/8,')/2:		
	-2851$/ 2) 67$7,67,&$/ 3+<6,&6		
	-2851$/ 2) 6<67(066&,(1&(&203/(;,7< , Ä³ 00 vÿ0q ç3	2	
	0$7+(0$7,&$/ *(26&,(1&(6		
	0$7+(0$7,&6$1' &20387(56,16,08/$7,21		
	0$7+(0$7,&6$1' 0(&+$1,&62) 62/,' 6		
	3+<6,&$' 121/,1($53+(120(1$		
	3/26&20387$7,21$/ %2/2*<		;
	6,$0 -2851$/ 21 &20387,1*		
	6,$0 -2851$/ 21),1$1&,$/ 0$7+(0$7,&6		;
	6,$0 -2851$/ 21 0$7+(0$7,&62) '7 6&,(1&(		
	6,$0 6 -2851$/ 21 81&(57$,17< 48$17,),&$7,21		
	=(,76&+5,)7)85$1*(: $1' 7(0$7+(0$7,. 81' 3+<6,.		

Å -	D œ0 Ê+^¦ œ2±7 U @	&1	,661
	$/*25,7+0,&$		
	%0&%2,1)250$7,&6		
	%5,(),1*6,1 %2,1)250$7,&6		
	&200 81,&$7,216,1 121/,1($56&,(1&($1' 180(5,&$/ 6,08/$7,21		
	&20387$7,21$/ 0$7+(0$7,&6$1' 0$7+(0$7,&$/ 3+<6,&6		
	',6&5(7(237,0,=$7,21		
	'<1$0,&*$0(6$1' $33/,&$7,216		
	(1*,1((5,1* 1/<6,6:,7+ %281' $5< (/(0(176		
	(1*,1((5,1* &20387$7,216		

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	(19,5210(17$/ $1' (&2/2*,&$/ 67$7,67,&6		
	)5$&7$/6 &203/(; *(20(75< 3$77(516$1' 6&$/,1* ,1 1$785($1' 62&,(7<		;
	,0-2851/2)0$1$*(0(170$7+(0$7,&6		;
	,17(51$7,21$/-2851$/)2508/7,6&$/(&20387$7,21$/(1*,1((5,1*		
	,17(51$7,21$/-2851$/2)%)85&$7,21$1' &+$26		
	,19(56(352%(06,16&,(1&($1' (1*,1((5,1*		
	-2851$/2)&20387$7,21$/%2/2*<		
	-2851$/2)(1*,1((5,1*0$7+(0$7,&6		
	-2851$/2),1'8675,$/$1'0$1$*(0(17237,0,=$7,21		
	-2851$/2)0$7+(0$7,&$/&+(0,675<		
	-2851$/2)0$7+(0$7,&$/(&2120,&6		
	-2851$/2)0$7+(0$7,&$/)/8,'0(&+$1,&6		
	-2851$/2)7+(23(5$7,21$/5(6($5&+62&,(7<		
	-2851$/2)7+(25(7,&$/%2/2*<		
	0$7+(0$7,&$/%26&,(1&(6		
	0$7+(0$7,&6$1'),1$1&,$/(&2120,&6		
	1(7:25.6$1' +(7(52*(1(2860(',$		
	237,0,=$7,21$1' (1*,1((5,1*		
	48$17,7$7,9(),1$1&(		
	6&$1',1$9,1&78$5,$/-2851$/		
	] Qô00q	2	
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	ô ™80™8oë	73	
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	%LRDFWLYH0 DWWULEXWH “ ^ c ÿ ë x	[		7
	&KLQHVH-RXUQDORI 3RO P HU6FLHQFH : Ó • ³ 0 ç 3 Q		2	7
	(QHUJ\ (QYLURQP HQW0 DWWULEXWH Ÿ W0 , B ë x			7
	-RXUQDORI $GYDQFHG&HUDP LFV •) ^ ¬ ç 3		74	7
	-RXUQDORI ,URQDQG6WHHO 5HVHDUFK,QWHUQDWLRQDO 1 - Y N 0 q ç 3 Q	;	7)	7
	-RXUQDORI 0 DJQHWLXP DQG$ OR\V # æ ! 0 q ç 3		7)	7
	-RXUQDORI 0 DWHULDOV6FLHQFH 7HFKQRORJ\ ë x ³ 0 • ì ç 3 Q		7*	7
	-RXUQDORI 5DUH(DUWKV n Ò 0 q ç 3 Q		7)	7
	1 DQR5HVHDUFK Œ< Y N ç 3 Q		2	7
	1 DQR0 LFUR/ HWWHUV Œ Ù q		7%	7
	QSM&RP SXWDWLRQDO0 DWHULDOV ™8 ë x 0		74	7

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	0 $7(5,$/6$1' &25526,21 : (5. 672))(81' . 25526,21		7
	7+,1 62/,'),/0 6		7
	-2851$/ 2) (/(&7521,&0$7(5,$/6		7
	$33/,(' 3+<6,&6$ 0$7(5,$/6 6&,(1&(352&(66,1*		7
	$GYDQFHVLQ1DQR5HVHDUFK	;	7
	-2851$/ 2) &5<67$/ *52: 7+		7
	-2851$/ 2) 0$7(5,$/65(6($5&+		7
	-2851$/ 2) 1$123$57,&/(5(6($5&+		7
	-2851$/ 2) ,17(//,*(170$7(5,$/ 6<67(06$1' 6758&785(6	;	7
	-RXUQDORI1DQRP DWHULDOV		7
	$&6$SSOLHG(QHUJ\ 0DWHULDOV		7
	$&,6758&785$/-2851$/		7
	6XUIDFHEHK0DWHULDOVDQG7HFKQRORJLHV		7
	,QWHUQDWLRQDO-RXUQDORI &RQFUHWH6WUXFWXUHV DQG0DWHULDOV		7
	$&,0$7(5,$/6-2851$/	;	7
	$'9$1&(6,1&(0(175(6($5&+		7
	-RXUQDORI6FLHQFH$GYDQFHG0DWHULDOVDQG'HYLFHV		7
	,QWHUQDWLRQDO0DWHULDOVDQG0DQXIDFWXULQJ ,QQRYDWLRQ		7
	0HPEUDQHV		7
	1DQR)XXUHV		7
	-RXUQDORI1DQRWXFWXUHLQ&KHP LVWU		7

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	0 DJQHWRFKHP LWW		7

c 3] L| c 9' ½ 7 Aú4ÝU @´ @COÌ • " Lƒ Å È M µ			
3 » U @Å -	U @C0&	, 661	&1
	-RXUQDORI : XKDQ8 QLYHUVLWV RI 7HFKQRORJ\ 0 DWHULDOV6FLHQFH(GLWRQ S Ñ 8] Ö 0 0 q ë x ³ 0 Q ç 3		7%
	ë x ³ 0 0] ¼ 0 DWHULDOV6FLHQFH DQG7HFKQRORJ\		7%
	Ø l ˜ !] œ 3RZ GHU0 HWDOXUJ\ ,QGXVW		7)
	D ! ë ³ 0 0] Q 1 RQ HUURXV0 HWDOV6FLHQFH DQG (QJLQHHULQJ		7)
	ë x l 0 DWHULDOV3URWHFWRQ		7%
	h º ! ë 6KDQJKDL0 HWDOV		7)
	Ê P 1 æë x) LEHU5 HLQ RUFHG3ODWWFV &RP SRVLWH		78
	_ Ÿ ë x 0 v Ñ 0 q -RXUQDORI) XQFWRQDO0 DWHULDOV DQG ' HYLFHV		7%
	‡ X ë x ,QVXODWQJ 0 DWHULDOV		70
	; ! * RQG		7)
	1 - - û ,URQ6WHO9 DQDGLXP 7LWDQLXP		7)

	D ! ë] Q 1 RQ HUURXV0 HWDOY		7)
	û] œ) º 7LWDQLXP		7*
	! ë _ Ÿ ë x 0 HWDOF) XQFWRQDO0 DWWULDOY		7*
	ë x —Ÿ 0 ë ' HYHORSP HQWDOG$SSOLFDWRQRI 0 DWWULDOY		7%
	/ ³ œ &KLQD0 R0EGHQXP ,QGXVWU		7)
	÷) æ! &HP HQWG&DUELGH		7)
	D ! ë ë x 0] Q 1 RQ HUURXV0 HWDO0 DWWULDOYDQG (QJLQHHULQJ		7)

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Å -	U @C0&	, 661	<4Ý
	0 HWDOY		7
	0 DWWULDOY		7
	0 DWWULDOY5HVHDUFK([SUHVV		7
	$,3$GYDQFHV		7
	-2851$/ 2) 0$7(5,$/6 (1*,1((5,1* $1' 3(5)250 $1&(		7
	0 ,&526<67(0 7(&+12/2*,(60,&52 $1' 1$126<67(06,)250 $7,21 6725$*($1' 352&(66,1* 6<67(06		7

	3+<6,&$ 67$786 62/,', $ $33/,&$7,216$1' 0$7(5,$/6 6&,(1&(		7
	(&6-RXUQDORI6RIG6WDWH6FLHQFHDQG7HFKQRORJ\		7
	-2851$/ 2) 1$126&,(1&($1' 1$127(&+12/2*<		7
	3DPPRQLFV		7
	,(((7UDQVDFWLRQVRQ&RPSRQHQWV3DFNDJLQJ DQG0 DQXIDFWXULQJ7HFKQRORJ\		7
	0 56&RPPXQLFDWLRQV		7
	-2851$/ 2) $' +(6,21 6&,(1&($1' 7(&+12/2*<		7
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	$GYDQFHVLQ3URGXFWLRQ(QJLQHHULQJ 0 DQDJHPHQW		7
	(OHFWURQLF0 DWHULDOV/ HWWHUV		7
	),5(7(&+12/2*<		7
	. 21$ 3RZGHUDQG3DUWFOH-RXUQDO		7
	0$7(5,$/67(&+12/2*<		7
	-2851$/ 2) /$6(5 $33/,&$7,216	;	7
	&DUERQ/ HWWHUV		7
	&XUUHQW1 DQRVFLHQFH		7
	-RXUQDORI3KRWRFKHPLVWU\(QHUJ\		7

	6XUDFH7RSRJUDSK\ 0 HWRGRJ\ DQG 3URSHUWLHV	;	7
	1 DQRP DWHULDOV DQG 1 DQRWHFKQRORJ\		7
	0 $7(5,$/6 $7 +,* + 7(0 3(5$785(6		7
	0 $7(5,$/(6' (&216758&&,21		7
	-RXUQDORI (QHUJHWF 0 DWHULDOV		7
	$72 0 ,=$7,21 $1' 635$<6		7
	* 2/' %8//(7,1	;	7
	-RXUQDORI $GYDQFHG&RQFUHWH 7HFKQRORJ\		7
	-2851$/ 2)),5(6&,(1&(6		7
	$GYDQFHVLQ0 DWHULDOV6FLHQFHDQG (QJLQHHULQJ		7
	0 DWHULDOV5HVHDUFK ,EHUR DP HULFDQ -RXUQDORI 0 DWHULDOV		7
	0 $7(5,$/6 75$16$&7,216		7
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	-RXUQDORI VWH6RFLHWVIRU,QRUP DWLRQ ' LVSOD\		7
	-RXUQDORI 0 LFUR1 DQR2LWRJUDSK\ 0 (0 6 DQG0 2(0 6		7
	5(9,(: 6 21 $' 9$1&(' 0 $7(5,$/6&,(1&(		7
	0 DWHULDOV([SUHVV		7
	. RUHDQ-RXUQDORI 0 HWDOV DQG0 DWHULDOV		7

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-2851$/ 2) 0,&52: $9(32: (5 $1' (/(&7520$*1(7,&(1(5*< 5HYLVWD5RPDQDGH0DWULDOH5RPDQLDQ -RXUQDORI 0DWULDORPD VD 7

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	&RP SXWHU0 HWKRGVLQ$ SSOLHG0 HFKDQLFVDQG(QJLQHHULQJ
	,QWHUQDWLRQDO-RXUQDORI 0 HFKDQLFDO6FLHQFHV
	-RXUQDORI 6RXQGDQG9 LEUDWLRQ
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	-RXUQDORI 9 LEUDWLRQ DQG&RQWURO
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	-RXUQDORI) OXLGVDQG6WXFWXUHV
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	0 HFKDQLVP DQG0 DFKLQH7 KHRU\
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	6KRFNDQG9 LEUDWRQ
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	6WUXFWXUDO(QJLQHHULQJ DQG0 HFKDQLFV
	7KLQ: DOOHG6WUXFWXUHV
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	(QHJJ\ (QYLURQP HQVDO6 FLHQFH	7
	(QYLURQP HQVDO+ HDOWK3 HUVSHFWLYHV	7
	(QYLURQP HQVDO6 FLHQFH 7 HFKQRORJ\	7
	(QYLURQP HQVDO6 FLHQFH DQG(FRVWFKQRORJ\	7
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	* OREDO&KDQJH%LRORJ\	7
	-RXUQDORI (QYLURQP HQVDO6 FLHQFHV	7
	0 LFURELRP H	7
	1 DWXUH&OLP DWH&KDQJH	7
	1 DWXUH6XVWDLQDELOLW	7
	5 HQHZ DEOH 6XVWDLQDEOH(QHJJ\ 5 HYLHZ V	7
	7KH,60 (-RXUQDO	7
	7KH/ DQFHW3 ODQHWDU + HDOWK	7
	: DWHU5 HVHDUFK	7

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	$ SSOLHG DQG(QYLURQP HQWDO0 LFURELRORJ\	7
	%LRUHVRXUFH7 HFKQRORJ\	7
	%LRVHQVRUV DQG%LRHOHFWURQLFV	7
	&KHP LFDO(QJLQHHULQJ -RXUQDO	7
	&XUUHQW2 SLQLRQ LQ%LRWHFKQRORJ\	7
	' HVDOLQDWRQ	7
	(FRV\ VWHP + HDOW DQG6 XVWDLQDELOW	7
	(QYLURQP HQW/QWHUQDWRQDO	7
	(QYLURQP HQWDO,QQRYDWRQ DQG6 RFLHWDO7 UDQVLWRQV	7
	(QYLURQP HQWDO0 LFURELRORJ\	7
	(QYLURQP HQWDO6 FLHQFH 7 HFKQRORJ\ / HWHUV	7
	) URQWHUV LQ(FRORJ\ DQG VKH(QYLURQP HQW	7
	* OREDO(QYLURQP HQWDO&KDQJH	7
	* UHHQ(QHUJ\ (QYLURQP HQW	7
	-RXUQDORI &OHDQHU3 URGXFWRQ	7
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	1 DWXUH5 HYLHZ V(DUWK (QYLURQP HQW	7
	QSM&OHDQ: DWHU	7
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	5 HP RWH6 HQVLQJ RI (QYLURQP HQW	7
	5 HVRXUFHV &RQVHUYDWRQ 5 HF\ FOLQJ	7
	5 HYLHZ VLQ(QYLURQP HQWDO6 FLHQFH DQG%LR 7 HFKQRORJ\	7
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	$ SSOLHG0 LFURELRORJ\ DQG%LRWHFKQRORJ\	7
	$ TXDWF7 R[LFRORJ\	7
	$ VR7 RVSKHULF &KHP LVWW DQG3K\ VLFV	7
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	&KHP LFDO5HVHDUFK LQ7R[LFRORJ\	7
	&KHP RVSKHUH	7
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	&KLQHVH&KHP LFDO' HWHFWV	7
	&KLQHVH -RXUQDO RI 3RSXODWLRQ 5HVRXUFHV DQG(QYLURQP HQW	7
	&UWLFDO5HYLHZ VLQ%LRWHFKQRORJ\	7
	&XUUHQW2SLQLRQ LQ(QYLURQP HQWDO6XVWDLQDELOLW	7
	(DUWK¶V) XWXUH	7
	(FRORJLFDO(QJLQHHULQJ	7
	(FRVW[LFRORJ\ DQG(QYLURQP HQWDO6DHW	7
	(P HUJLQJ &RQWP LQDQW	7
	(FR(QYLURQP HQW +HDOWK	7
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	(QYLURQP HQWDO,P SDFW$ VVHVVP HQW5HYLHZ	7
	(QYLURQP HQWDO0 LFURELRORJ\ 5HSRUW	7
	(QYLURQP HQWDO0 RGHOLQJ 6RIWZDUH	7
	(QYLURQP HQWDO3ROOXWDQ	7
	(QYLURQP HQWDO5HVHDUFK	7
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	(QYLURQP HQWDO6FLHQFH 3RDF\	7
	(QYLURQP HQWDO6FLHQFHDQG3ROLFDQ5HVHDUFK	7
	(QYLURQP HQWDO6FLHQFH 1DQR	7
	(QYLURQP HQWDO6FLHQFHV(XURSH	7
	(QYLURQP HQWDO6FLHQFH : DWHU5HVHDUFK 7HFKQRORJ\	7
	(QYLURQP HQWDO7R[LFRORJ\ DQG&KHP LVWU	7
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	-RXUQDO RI (QYLURQP HQWDO(FRQRP LFV DQG0 DQDJHP HQW	7
	-RXUQDO RI (QYLURQP HQWDO0 DQDJHP HQW	7
	-RXUQDO RI * HRSK\ VLFDO5HVHDUFK $ WPRVSKHUHV	7
	-RXUQDO RI 6RLODQG: DWHU&RQVHUYDWLRQ	7
	-RXUQDO RI 7R[LFRORJ\ DQG(QYLURQP HQWDO+HDOWK 3DUW%	7
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	6HSDUDWRQ DQG 3XULI LFDWRQ 7HFKQRORJ\	7
	6RLO%LRORJ\ DQG %LRFKHP LVWU	7
	7KH, QVMUQDWRQDO-RXUQDORI / LIH&\ FOH$ VWHWP HQW	7
	7R[LFRORJ LFDO6FLHQFHV	7
	8 UEDQ&CIP DVM	7
	: DVM0 DQDJHP HQW 5 HVHDUFK	7
	: DVMU&\ FOH	7
	: DVMU(QYLURQP HQW5 HVHDUFK	7
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	,QWHUQDWLRQDO-RXUQDORI 0 RGHOLQJ 6LPXODWLRQ DQG 6FLHQWLILF&RPSXWLQJ	
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	,QWHUQDWLRQDO-RXUQDORI 0 DWHPH(QJLQHHULQJ	,661
	,QWHUQDWLRQDO-RXUQDORI 2IIVKRUH$QG3RODU (QJLQHHULQJ	,661
	-RXUQDORI 0 DULQH(QJLQHHULQJ DQG7HFKQRORJ\	,661
	-RXUQDORI 0 DULQH6FLHQFH$QG7HFKQRORJ\	,661
	-RXUQDORI 0 DULQH6FLHQFHQGSSOLFDWLRQ	7 &1
	-RXUQDORI 2FHDQ(QJLQHHULQJ DQG6FLHQFH	,661
	-RXUQDORI 2IIVKRUH0 HFKDQLFVQGUFWF (QJLQHHULQJ 7UDQVDFWLRQVRI \WH$\VP H	,661
	-RXUQDORI 6KLS3URGXFWLRQDQG' HVLJQ	,661
	-RXUQDORI 6KLS5HVHDUFK	,661
	-RXUQDORI : DWHUZD\ 3RUW&RDVWDO$QG2FHDQ (QJLQHHULQJ	; ,661
	Ó• (•] Q	8 &1
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	Þ* ³ • Ö 0 0 q ‘ ö ³ 0 Q	1 &1
	0 DULQH7HFKQRORJ\ 6RFLHW\-RXUQDO	,661
	1 DYDO(QJLQHHUV-RXUQDO	,661
	• ÷ o	7. &1
	3RODU0 DULQH5HVHDUFK	,661
	352&((',1*62) 7+(,167,787,21 2) &,9,/ (1*,1((560$5,7,0((1*,1((5,1*	,661
	¦]] ¼	7* &1
	6($7(&+12/2*<	,661
	6KLSVDQG2IIVKRUH6WUFWXUHV	,661
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	h º ì ¹ Ö 0 0 q	8 &1
	• M , Ä 0 q	7- &1
	S Ñ 8] Ö 0 0 q ì ¹ ³ 0 0] Q Q	8 &1
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	/ ³ Ô º	8 &1
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	$GYDQFHVLQ3RODU6FLHQFH	3 &1
	$QQXDO5HYLHZ RI 0 DULQH6FLHQFH	,661
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7	$PHUFDQ(FRQPLF-RXUQDO$SSOLHG(FRQPLFV		
7	-RXUQDORI'HYHORSPHQW(FRQPLFV		
7	-RXUQDORI3XEOLF(FRQPLFV		
7	5$1'-RXUQDORI(FRQPLFV		
7	$PHUFDQ(FRQPLF-RXUQDO(FRQPLF3ROLF\		
7	%URRNLQJV3DSHUVRQ(FRQPLF$FWLYLWLHV		
7	&KLQD(FRQPLF5HYLHZ	;	
7	(FRQPLF'HYHORSPHQWDQG&XOWXUDO&KDQJH		
7	*HQGHUDQG(GXFDWLRQ		
7	,QWHUQDWLRQDO-RXUQDORI,QGXVWULDO2UJDQL]DWLRQ		
7	-RXUQDORI&RPSDUDWLYH(FRQRPLFV		
7	-RXUQDORI'HYHORSPHQW6WXGLHV		
7	-RXUQDORI(FRQRPLF*URZWK		
7	-RXUQDORI(FRQRPLFV0DQDJHPHQW6WUDWHJ\		
7	-RXUQDORI,QGXVWULDO(FRQRPLFV		
7	-RXUQDORI5HDO(VWDWH)LQDQFH(FRQRPLFV		
7	-RXUQDORI5HJXODWRU\(FRQRPLFV	;	
7	5HDO(VWDWH(FRQRPLFV		
7	5HYLHZ RI,QFRPHDQG:HDOWK		
7	:RUOG%DQN(FRQRPLF5HYLHZ		
7	:RUOG'HYHORSPHQW	;	
7	%(-RXUQDORI(FRQRPLF$QDO\VLV3ROLF\		
7	&KLQD:RUOG(FRQRP\		
7	(FRQRPLFV3ROLF\		
7	(FRQRPLFVRI7UDQVLWLRQ		
7	)LVFDO6WXGLHV		
7	,QFRUP DWLRQ(FRQRPLFVDQG3ROLF\		
7	,QWHUQDWLRQDO-RXUQDORI WH(FRQRPLFVRI %XVLQHVV		
7	-RXUQDORI$IULFDQ(FRQRPLHV		

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7	-RXUQDORI (FRQRP LF , QHTXDOLW		
7	-RXUQDORI + RXVLQJ (FRQRP LFV		
7	-RXUQDORI , QWHUQDWRQDO HYHORSP HQW		
7	-RXUQDORI 5 HDO(WDWH 5 HVHDUFK		
7	-RXUQDORI 5 HYHQXH DQG 3 ULFLQJ 0 DQDJHP HQW		
7	0 DQDJHULDODQG' HFLVLRQ(FRQRP LFV		
7	0 DQFKHWHU 6 FKRRO		
7	1 DWRQDO 7 D[-RXUQDO		
7	2 [IRUG' HYHORSP HQW 6 WXGLHV		
7	3 RVW&RP P XQLWW(FRQRP LHV		
7	5 HYLHZ RI ' HYHORSP HQW(FRQRP LFV		
7	5 HYLHZ RI (FRQRP LFV RI WKH + RXVHKROG		
7	5 HYLHZ RI , QGXWULDO 2 UJDQL] DWRQ	;	
7	5 HYLHZ RI 1 HZ7 RUN(FRQRP LFV		
7	7 HOHFRP P XQLFDWRQV 3 ROLF\		

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7	(QWHSUHQHXUVKLS 7 KHRU DQG 3 UDFWFH		
7	-RXUQDORI %XVLQHW 9 HQWXULQJ		
7	6 WDWHJLF (QWHSUHQHXUVKLS -RXUQDO		
7	(QWHSUHQHXUVKLS DQG 5 HJLRQDO HYHORSP HQW		
7	) DP LO %XVLQHW 5 HYLHZ		
7	, QWHUQDWRQDO 6 P DOO%XVLQHW -RXUQDO		
7	-RXUQDORI 6 P DOO%XVLQHW 0 DQDJHP HQW		
7	6 P DOO%XVLQHW(FRQRP LFV	;	
7	(QWHSUHQHXUVKLS 5 HVHDUFK -RXUQDO		
7	, QWHUQDWRQDO(QWHSUHQHXUVKLS DQG 0 DQDJHP HQW -RXUQDO		
7	, QWHUQDWRQDO-RXUQDORI (QWHSUHQHXULDO%HKDYLRXU 5 HVHDUFK		
7	, QWHUQDWRQDO-RXUQDORI (QWHSUHQHXULDO 9 HQWXULQJ		
7	-RXUQDORI) DP LO %XVLQHW 6 WDWHJ\		

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<4Ý	U @C0&	, 661 (, 661	&1@-
7	-RXUQDORI 5 LVN DQG 8 QFHUWDLQW		
7	5 LVN $ QDO VLV		
7	$ FFLGHQW$ QDO VLV DQG 3 UHYHQWRQ		
7	' LVDWHUV		

<4Ý	U @C0&	,661 (,661	&1@-
7	-RXUQDORI 5LVN		
7	-RXUQDORI 6DIHW5HVHDUFK		
7	3URFHHGLQJVRI WKH,QWHUQDWLRQDO HFKDQLFDO (QJLQHHUV3DUW2 -RXUQDORI 5LVNDQG5HOLDELOLW	;	
7	5HOLDELOLW(QJLQHHULQJ 6\VWHP 6DIHW		
7	6DIHW6FLHQFH		
7	6HFXULW' LDORJXH		
7	' LVDVWHU3UHYHQWLRQDQG0 DQDJHPHQW		
7	,QWHUQDWLRQDO-RXUQDORI ' LVDVWHU5LVN5HGXFWLRQ		
7	,QWHUQDWLRQDO-RXUQDORI ' LVDVWHU5LVN6FLHQFH		
7	-RXUQDORI 2SHUDWLRQDO5LVN		
7	-RXUQDORI 5LVN5HVHDUFK		

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7	,(((7UDQVDFWLRQVRQ(QJLQHHULQJ 0 DQDJHPHQW		
7	&RQWUDFWRQ0 DQDJHPHQWDQG(FRQRPLFV		
7	)URQWLHUVRI (QJLQHHULQJ 0 DQDJHPHQW		1
7	,QWHUQDWLRQDO-RXUQDORI 3URMHFW0 DQDJHPHQW		
7	-RXUQDORI &LYLO(QJLQHHULQJ DQG0 DQDJHPHQW		
7	-RXUQDORI &RQWUDFWRQ(QJLQHHULQJ DQG 0 DQDJHPHQW		
7	-RXUQDORI 0 DQDJHPHQWQ(QJLQHHULQJ	;	
7	%XLOGLQJ5HVHDUFK DQG,QIRUPDWRQ		
7	&RQWUDFWRQ,QQRYDWRQ		
7	(QJLQHHULQJ &RQWUDFWRQ DQG$UFKLWHFWXUDO 0 DQDJHPHQW		
7	-RXUQDORI &RP SXWQJ LQ&LYLO(QJLQHHULQJ		
7	-RXUQDORI ,QIUDVWUXFWXUH6\VWHP V		
7	3URMHFW0 DQDJHPHQWRXUQDO		

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<4Ý	U @C0&	,661 (,661	&1@-
7	* RYHUQDQFH		
7	-RXUQDORI 3XEOF$ GP LQLVWUDWRQ5HVHDUFK DQG 7KHRU		
7	3XEOF$ GP LQLVWUDWRQ		

<4Ý	U @C0&	,661 (,661	&1@-
7	3XEOF$GPLQLWDWRQ5HYLHZ		
7	3XEOF0DQDJHPHQW6HYLHZ		
7	$GPLQLWDWRQ 6RFLHWV		
7	$PHUFDQ5HYLHZ RI 3XEOF$GPLQLWDWRQ		
7	*RYHUQPHQWRUPDWRQ4XDUWHUO	;	
7	,QWHUQDWRQDO3XEOF0DQDJHPHQWRXUQDO		
7	-RXUQDORI 3RDF\ $QDO\VLVDQG0DQDJHPHQW		
7	1RQSURILWDQG9RXQWDU6HFWRU4XDUWHUO		
7	3RDF\ DQG3RODWLFV		
7	3XEOF2SLQLRQ4XDUWHUO	;	
7	5HJXODWRQ *RYHUQDQFH		
7	$XVWUDOLDQ-RXUQDORI 3XEOF$GPLQLWUDWRQ		
7	)LQDQFLDO$FFRXQWDELOLW\ 0DQDJHPHQW		
7	,QWHUQDWRQDO-RXUQDORI 3XEOF$GPLQLWUDWRQ		
7	,QWHUQDWRQDO-RXUQDORI 3XEOF2SLQLRQ5HVHDUFK		
7	,QWHUQDWRQDO5HYLHZ RI $GPLQLWUDWLYH6FLHQFHV		
7	-RXUQDORI &KLQHVH* RYHUQDQFH		
7	-RXUQDORI &RPSDUDWLYH3RDF\ $QDO\VLV		
7	-RXUQDORI &RQWHPSRUDU\ &KLQD		
7	-RXUQDORI 3RDF\ 0RGHOLQJ		
7	-RXUQDORI 3XEOF3RDF\	;	
7	/RFDO*RYHUQPHQW6WXGLHV		
7	1RQSURILW0DQDJHPHQW /HDGHUVKLS		
7	3RDF\ 6FLHQFHV		
7	3RDF\ 6WXGLHV		
7	3RDF\ 6WXGLHV-RXUQDO	;	
7	3XEOF$GPLQLWUDWRQDQG' HYHORSPHQW		
7	3XEOF$GPLQLWUDWRQ4XDUWHUO		
7	3XEOF0RQH\ 0DQDJHPHQW		
7	3XEOF3HUIRUPDQFH 0DQDJHPHQW6HYLHZ		
7	3XEOF3RDF\ DQG$GPLQLWUDWRQ		
7	6RFLDO3RDF\ $GPLQLWUDWRQ		
7	9RXQWDV		

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7	-RXUQDORI ,QWHUQDWRQDO%XVLQHVV6WXGLHV		
7	-RXUQDORI : RUOG%XVLQHVV		
7	$VLD3DFLILF-RXUQDORI 0DQDJHPHQW		
7	$XVWUDOLDQ-RXUQDORI ,QWHUQDWRQDO$IIDLUV		

<4Ý	U @C0&	,661 (,661	&1@-
7	(FRQRP\ DQG6RFLHW		
7	(XURSHDQ-RXUQDORI,QWHUQDWLRQDO5HODWLRQV		
7	)RUHLJQ$IIDLUV		
7	,QWHUQDWLRQDO$IIDLUV		
7	,QWHUQDWLRQDO%XVLQHVV5HYLHZ		
7	,QWHUQDWLRQDO6WXGLHV4XDUWHUO		
7	-RXUQDORI&RQIOLFW5HVROXWLRQ		
7	-RXUQDORI(XURSHDQ3XEOLF3ROLF\		
7	-RXUQDORI,QWHUQDWLRQDO DQDJHPHQW		
7	-RXUQDORI6RFLDO3ROLF\		
7	0 DQDJHPHQW/QWHUQDWLRQDO5HYLHZ		
7	5HYLHZ RI,QWHUQDWLRQDO3RLWLFDO(FRQRP\		
7	6RFLR(FRQRPLF5HYLHZ		
7	$IULFDQ$IIDLUV		
7	%XVLQHVVDQG3RLWLFV		
7	&DSLWDO DUNHW/ DZ -RXUQDO		
7	&KLQD-RXUQDO		
7	&KLQD4XDUWHUO		
7	&KLQHVH0 DQDJHPHQW6WXGLHV	;	
7	&RP SHWLWLRQDQG&KDQJH		
7	' HYHORSP HQWDQG&KDQJH	;	
7	(XURSH$VLD6WXGLHV		
7	-RXUQDORI&RPP RQ0 DUNHW6WXGLHV		
7	-RXUQDORI(XURSHDQ6RFLDO3RLF\		
7	-RXUQDORI,QWHUQDWLRQDO(FRQRP LF/ DZ		
7	-RXUQDORI: RUOG,QYHVWPHQW 7UDGH		
7	-RXUQDORI: RUOG7UDGH		
7	/ HJDO,VVXHVRI(FRQRP LF,QWHJUDWLRQ		
7	1HZ 3RLWLFDO(FRQRP\		
7	3XEOLF5HODWLRQV5HYLHZ		
7	5HYLHZ RI6RFLDO(FRQRP\		
7	6WXGLHVLQ&RP SDUDWLYH,QWHUQDWLRQO HYHORSP HQW		
7	7KLUG: RUOG4XDUWHUO		
7	9HQWXUH&DSLWDO		

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7	$P HULFDQ(FRQRP LF-RXUQDO0 DFUR-FRQRP LFV		
7	-RXUQDORI,QWHUQDWLRQDO(FRQRP LFV		
7	-RXUQDORI0 RQHWDU\ (FRQRP LFV		

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7	(FRQRP LF 3 ROLF\		
7	,0) (FRQRP LF 5 HYLHZ		
7	-RXUQDORI (FRQRP LF ' \ QDP LFV DQG &RQWURO		
7	0 DFURHFRQRP LF ' \ QDP LFV		
7	1 %(5 0 DFURHFRQRP LFV $ QQXDO		
7	2 [I RUG %XOOHWLQ RI (FRQRP LFV DQG 6 WDWLWWLFV		
7	5 HYLHZ RI (FRQRP LF ' \ QDP LFV		
7	5 HYLHZ RI , QWHUQDWLRQDO (FRQRP LFV		
7	$ SSOLHG (FRQRP LFV		
7	%(-RXUQDORI 0 DFURHFRQRP LFV		
7	%XOOHWLQ RI (FRQRP LF 5 HVHDUFK		
7	(FRQRP LF 0 RGHOLQJ		
7	(FRQRP LF 6\ VWHP V		
7	(P SLULFDO (FRQRP LFV		
7	-RXUQDORI (FRQRP LF 6 XUYH\ V		
7	-RXUQDORI 0 DFURHFRQRP LFV		
7	-RXUQDORI VKH-DSDQHVH DQG , QWHUQDWLRQDO (FRQRP LHV		
7	2 SHQ (FRQRP LHV 5 HYLHZ		
7	3 DFLILF (FRQRP LF 5 HYLHZ	;	
7	5 HYLHZ RI : RUOG (FRQRP LFV		
7	6 FRWWLVK -RXUQDORI 3 ROLWLFDO (FRQRP \		
7	6 WUXFWXUDO &KDQJH DQG (FRQRP LF ' \ QDP LFV	;	
7	: RUOG (FRQRP \		

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7	$ FFRXQWLQJ 2 UJDQL] DWLRQV DQG 6 RFLHWV		
7	$ FFRXQWLQJ 5 HYLHZ		
7	&RQWHP SRUDU\ $ FFRXQWLQJ 5 HVHDUFK		
7	-RXUQDORI $ FFRXQWLQJ DQG (FRQRP LFV		
7	-RXUQDORI $ FFRXQWLQJ 5 HVHDUFK		
7	5 HYLHZ RI $ FFRXQWLQJ 6 WXGLHV		
7	$ EDFXV		
7	$ FFRXQWLQJ DQG %XVLQHVV 5 HVHDUFK		
7	$ FFRXQWLQJ $ XGLWLQJ $ FFRXQWDELOLW -RXUQDO		

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7	$ FFRXQWQJ + RUL] RQV		
7	$ XGLWQJ		
7	%HKDYLRUDO5 HVHDUFK LQ$ FFRXQWQJ		
7	%UWWK $ FFRXQWQJ 5 HYLHZ		
7	&UWWFDO3HUVSHFWLYHVRQ$ FFRXQWQJ		
7	(XURSHDQ$ FFRXQWQJ 5 HYLHZ		
7	,QWHUQDWRQDO-RXUQDORI $ FFRXQWQJ		
7	-RXUQDORI $ FFRXQWQJ DQG3XEOF3ROF\		
7	-RXUQDORI $ FFRXQWQJ / LWHUDWXUH		
7	-RXUQDORI $ FFRXQWQJ $ XGLWQJ) LQDQFH	;	
7	-RXUQDORI %XVLQHVV) LQDQFH $ FFRXQWQJ	;	
7	-RXUQDORI ,QWHUQDWRQDO$ FFRXQWQJ 5 HVHDUFK		
7	-RXUQDORI ,QWHUQDWRQDO$ FFRXQWQJ $ XGLWQJ DQG 7D[DWRQ		
7	-RXUQDORI 0 DQDJHP HQW$ FFRXQWQJ 5 HVHDUFK		
7	-RXUQDORI VKH$ P HULFDQ7D[DWRQ$ VVRFLDWRQ		
7	0 DQDJHP HQW$ FFRXQWQJ 5 HVHDUFK		
7	$ FFRXQWQJ DQG) LQDQFH		
7	$ FFRXQWQJ DQG VKH3XEOF ,QWHUHVW		
7	$ FFRXQWQJ) RUXP		
7	$ FFRXQWQJ LQ(XURSH		
7	$ FFRXQWQJ 5 HVHDUFK -RXUQDO		
7	$ FFRXQWQJ (FRQRP LFV DQG/ DZ $ &RQYLYLXP		
7	$ GYDQFHVLQ$ FFRXQWQJ		
7	$ GYDQFHVLQ$ FFRXQWQJ %HKDYLRUDO5 HVHDUFK		
7	$ GYDQFHVLQ0 DQDJHP HQW$ FFRXQWQJ		
7	$ VLD3DFLILF -RXUQDORI $ FFRXQWQJ (FRQRP LFV		
7	$ XWWDODQ$ FFRXQWQJ 5 HYLHZ		
7	%UWWK 7D[5 HYLHZ		
7	&KLQD-RXUQDORI $ FFRXQWQJ 5 HVHDUFK		
7	&RUSRUDWH* RYHUQDQFH $ Q,QWHUQDWRQDO5 HYLHZ		
7	) RXQGDWRQVDQG7UHQGVŠ LQ$ FFRXQWQJ		
7	,QWHUQDWRQDO-RXUQDORI $ FFRXQWQJ ,QIRUP DWRQ 6\ VWHP V		
7	,QWHUQDWRQDO-RXUQDORI $ XGLWQJ		
7	,QWHUQDWRQDO-RXUQDORI 0 DQDJHULDODQG) LQDQFLDO $ FFRXQWQJ		
7	-RXUQDORI $ FFRXQWQJ 2 UJDQL] DWRQDO&KDQJH		
7	-RXUQDORI $ SSOLHG$ FFRXQWQJ 5 HVHDUFK		
7	-RXUQDORI &RQWHP SRUDU\ $ FFRXQWQJ (FRQRP LFV		
7	-RXUQDORI) RUHQVLF DQG,QYHVWLJDWLYH$ FFRXQWQJ		
7	-RXUQDORI ,QIRUP DWRQ6\ VWHP V		

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7	-RXUQDORI ,QWHUQDWLRQDO)LQDQFLDO DQDJHPHQW $FFRXQWLQJ		
7	-RXUQDORI 0 DQDJHPHQW&RQWURO		
7	4 XDUWHUO\5HVHDUFK LQ$FFRXQWLQJ 0 DQDJHPHQW		
7	5HVHDUFK LQ$FFRXQWLQJ 5HJXODWRU\		
7	6XVWDLQDELOLW\$FFRXQWLQJ 0 DQDJHPHQWDQG3ROLF\ -RXUQDO		

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7	$QQDOVRI 6WUDWHJLF		
7	%LRPHWULND		
7	(FRQRPHWULF7KHRU\		
7	-RXUQDORI %XVLQHVV (FRQRPLF6WUDWHJLF		
7	-RXUQDORI (FRQRPHWULFV		
7	-RXUQDORI WKH$PHULFDQ6WDWLVWLFDO$VVRFLDWLRQ		
7	-RXUQDORI WKH5R\DO6WDWLVWLFDO6RFLHW\6HULHV %6WDWLVWLFDO0HWKRGRORJ\		
7	$QQDOVRI $SSOLHG6WDWLVWLFV		
7	%LRVWDWLVWLFV		
7	&RPSXWDWLRQDO6WDWLVWLFV ' DWD$QDO\VLV		
7	(FRQRPHWULF5HYLHZV		
7	(FRQRPHWULFV-RXUQDO		
7	-RXUQDORI $SSOLHG(FRQRPHWULFV		
7	-RXUQDORI &RPSXWDWLRQDODQG* UDSKLFDO6WDWLVWLFV		
7	-RXUQDORI 0 XOWLYDULDWH$QDO\VLV	;	
7	-RXUQDORI WKH5R\DO6WDWLVWLFDO6RFLHW\6HULHV $ 6WDWLVWLFVLQ6RFLHW\		
7	-RXUQDORI WKH5R\DO6WDWLVWLFDO6RFLHW\6HULHV & $SSOLHG6WDWLVWLFV		
7	-RXUQDORI 7LPH6HULHV$QDO\VLV		
7	6FDQGLQDYLDQ-RXUQDORI 6WDWLVWLFV		
7	6WDWLVWLFD6LQLFD		
7	6WDWLVWLFDO6FLHQFH		
7	$QQDOVRI WKH,QVWLWXWHRI 6WDWLVWLFDO DWKHP DWLFV		
7	$XVWUDOLDQ 1HZ =HDODQG-RXUQDORI 6WDWLVWLFV		
7	&DQDGLDQ-RXUQDORI 6WDWLVWLFV5HYXH&DQDGLHQQH ' H6WDWLVWLTXH	;	
7	(FRQRPHWULF-RXUQDORI 6WDWLVWLFV		
7	,QWHUQDWLRQDO6WDWLVWLFDO5HYLHZ		

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7	-RXUQDORI $SSOLHG6WDWLVWLFV		
7	-RXUQDORI 6WDWLVWLFDO3ODQQLQJ DQG,QIHUHQFH		
7	0 XOWLYDULDWH%HKDYLRUDO5HVHDUFK		
7	6WDWLVWLFD1 HHUODQGLFD		
7	6WDWLVWLFV DQG&RPSXWQJ		
7	6WDWLVWLFVLQ0 HGLFLQH		
7	6WUXFWXUDO(TXDWRQ0 RGHOLQJ		
7	6XUGLHVLQ1 RQOLQHDU \QDPLFVDQG(FRQRPHWULFV		

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7	7UDQVSRUWDWLRQ5HVHDUFK3DUW$ 3ROLF\ DQG3UDFWLFH		
7	7UDQVSRUWDWLRQ5HVHDUFK3DUW% 0 HWKRGRORJLFDO		
7	7UDQVSRUWDWLRQ6FLHQFH		
7	7UDQVSRUW3ROLF\	;	
7	,(((7UDQVDFWLRQVRQ,QWHOOLJHQW7UDQVSRUWDWLRQ 6\VWHPV		
7	-RXUQDORI 7UDQVSRUW HRJUDSK\		
7	7UDQVSRUW6HYLHZV		
7	7UDQVSRUWDWLRQ5HVHDUFK3DUW& (PHUJLQJ 7HFKQRORJLHV	;	
7	7UDQVSRUWDWLRQ5HVHDUFK3DUW 7UDQVSRUWDQG (QYLURQPHQW		
7	7UDQVSRUWDWLRQ5HVHDUFK3DUW(/ RJLVWLFVDQG 7UDQVSRUWDWLRQ5HYLHZ		
7	7UDQVSRUWDWLRQ5HVHDUFK3DUW) 7UDIILF3V\FKRORJ\ DQG%HKDYLRU		
7	(852 -RXUQDORQ7UDQVSRUWDWLRQDQG/ RJLVWLFV		
7	,(((,QWHOOLJHQW7UDQVSRUWDWLRQ6\VWHPV0 DJD]LQH		
7	,(7 ,QWHOOLJHQW7UDQVSRUW6\VWHPV	;	
7	-RXUQDORI $LU7UDQVSRUW0 DQDJHPHQW		
7	-RXUQDORI ,QWHOOLJHQW7UDQVSRUWDWLRQ6\VWHPV		
7	-RXUQDORI 7UDQVSRUW(FRQRPLFVDQG3ROLF\		
7	0 DUNHW3ROLF\ 0 DQDJHPHQW		
7	1HZ7RUNV 6SDWLDO(FRQRPLFV	;	
7	5HVHDUFKLQ7UDQVSRUWDWLRQ(FRQRPLFV		
7	7UDQVSRUWDWLRQ		
7	7UDQVSRUW7HUPLQDO$ 7UDQVSRUW6FLHQFH		

<4Ý	U @C0&	,661 (,661	&1@-
7	7UDQVSRUWHWDD% 7UDQVSRUW\QDPLFV		

<4Ý	U @C0&	,661 (,661	&1@-
7	$FDGHP\ RI 0DQDJHPHQW HDUQLQJ (GXFDWRQ	;	
7	(FRQRPLFV RI (GXFDWRQ5HVHDUFK		
7	-RXUQDORI (FRQRPLF (GXFDWRQ		
7	-RXUQDORI 0DQDJHPHQW (GXFDWRQ		
7	6WXGLHVLQ+LJKHU(GXFDWRQ		
7	$FFRXQWLQJ (GXFDWRQ		
7	%UDQGK(GXFDWRQDO5HVHDUFK-RXUQDO		
7	%UDQGK-RXUQDORI (GXFDWRQDO7HFKQRORJ\		
7	(QYLURQPHQWDO(GXFDWRQ5HVHDUFK		
7	+LJKHU(GXFDWRQ		
7	,1)250 67UDQVDFWRQV/RQ(GXFDWRQ		
7	,WXHVLQ$FFRXQWLQJ (GXFDWRQ		
7	-RXUQDORI $FFRXQWLQJ (GXFDWRQ		
7	-RXUQDORI +LJKHU(GXFDWRQ		
7	-RXUQDORI 6FKRRO3V\FKRORJ\		
7	-RXUQDORI 9RFDWRQDO(GXFDWRQDQG7UDLQLQJ		

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<4Ý	U @C0&	,661 (,661	&1@-
7	-RXUQDORI)LQDQFH		
7	-RXUQDORI)LQDQFLDODQG4XDQWLWDWLYH$QDO\VLV		
7	-RXUQDORI)LQDQFLDO(FRQRPLFV	;	
7	-RXUQDORI 0RQH\ &UHGLWDQG%DQNLQJ		
7	5HYLHZ RI)LQDQFH		
7	5HYLHZ RI)LQDQFLDO6WXGLHV		
7	(XURSHDQ)LQDQFLDO DQDJHPHQW		
7	)LQDQFHDQG6WRFKDVWLFV		
7	)LQDQFLDO$QDO\VW-RXUQDO	;	
7	)LQDQFLDO,QQRYDWLRQ		
7	)LQDQFLDO DQDJHPHQW		
7	,QVXUDQFH 0DWKHPDWLFV DQG(FRQRPLFV		

< 4Ý	U @C0&	, 661 (, 661	&1@-
7	,QVWUXFWRUV5HVHDUFK $VVRFLDWH3URIHVVRU		
7	-RXUQDORI %DQNLQJ) LQDQFH		
7	-RXUQDORI &RPPRGLW0 DUNHWV		
7	-RXUQDORI &RUSRUDWH) LQDQFH		
7	-RXUQDORI (PSLULFDO) LQDQFH		
7	-RXUQDORI) LQDQFLDO(FRQRP HWULFV		
7	-RXUQDORI) LQDQFLDO,QVWLWXWLRQV		
7	-RXUQDORI) LQDQFLDO0 DUNHWV		
7	-RXUQDORI) LQDQFLDO5HVHDUFK		
7	-RXUQDORI) LQDQFLDO6WDELOLW\		
7	-RXUQDORI) XWXUHV0 DUNHWV		
7	-RXUQDORI ,QVWLWXWLRQDO RQH DQG) LQDQFH		
7	-RXUQDORI 3RUWIROLR0 DQDJHP HQW		
7	-RXUQDORI 5LVN DQG,QVXUDQFH		
7	0 DWKHP DWLFDO) LQDQFH		
7	4 XDQWLWDWLYH) LQDQFH		
7	5HYLHZ RI $VVHW3ULFLQJ 6WXGLHV		
7	5HYLHZ RI &RUSRUDWH) LQDQFH6WXGLHV		
7	5HYLHZ RI 4 XDQWLWDWLYH) LQDQFHDQG$ FFRXQWLQJ	;	
7	$ QQDOYRI $ FWXDULDO6FLHQFH		
7	$ QQDOYRI (FRQRP LFV DQG) LQDQFH		
7	$ QQXDO5HYLHZ RI) LQDQFLDO(FRQRP LFV		
7	$ VLD3DFLILF) LQDQFLDO0 DUNHWV		
7	$67,1 %XOOHWLQ		
7	&KLQD) LQDQFH5HYLHZ ,QVWLWXWLRQDO		
7	&RUSRUDWH* RYHUQDQFH 7KH,QVWLWXWLRQ-RXUQDORI %XVLQHVV/LQ6RFLHWV		
7	(PHUJLQJ 0 DUNHWV5HYLHZ		
7	(XURSHDQ-RXUQDORI) LQDQFH	;	
7	) LQDQFH5HVHDUFK / HWWHUV		
7	) LQDQFLDO0 DUNHWVDQG3RUWIROLR0 DQDJHP HQW		
7	) LQDQFLDO0 DUNHWV ,QWHUQDWLRQV ,QWHUQHP HQW		
7	) LQDQFLDO5HYLHZ		
7	* HQHYD3DSHUVRQ5LVN DQG,QVXUDQFH,VVXHVDQG 3UDFWLFH		
7	* HQHYD5LVN DQG,QVXUDQFH5HYLHZ	;	
7	,QVWLWXWLRQDO-RXUQDORI &HQWUDO%DQNLQJ		
7	,QVWLWXWLRQDO-RXUQDORI) LQDQFH (FRQRP LFV		
7	,QVWLWXWLRQDO-RXUQDORI 7KHRUHWLFDODQG$ SSOLHG) LQDQFH		
7	,QVWLWXWLRQDO5HYLHZ RI (FRQRP LFV) LQDQFH		
7	,QVWLWXWLRQDO5HYLHZ RI) LQDQFH	;	

<4Ý	U @C0&	, 661 (, 661	&1@-
7	,QWHUQDWLRQDO7 D[DQG3XEOLF) LQDQFH		
7	-RXUQDORI %HKDYLRUDO) LQDQFH		
7	-RXUQDORI &RP SXWDWLRQDO) LQDQFH		
7	-RXUQDORI ' HULYDWLYHV		
7	-RXUQDORI (FRQRP LFV DQG %XVLQHVV		
7	-RXUQDORI) LQDQFLDO6 HUYLFHV5 HVHDUFK		
7	-RXUQDORI) L[HG,QFRP H		
7	-RXUQDORI ,QWHUQDWLRQDO) LQDQFLDO0 DUNHWV ,QWHUYXWLRQV 0 RQH\		
7	1 RUWK$ P HULFDQ$ FVXDULDO-RXUQDO		
7	3DFLILF %DVLQ) LQDQFH-RXUQDO	;	
7	3XEOLF) LQDQFH5 HYLHZ		
7	4 XDUWHUO\ 5 HYLHZ RI (FRQRP LFV DQG) LQDQFH		
7	5 HYLHZ RI ' HULYDWLYHV5 HVHDUFK		
7	5 HYLHZ RI) LQDQFLDO(FRQRP LFV		
7	6FDQGLQDYLDQ$ FVXDULDO-RXUQDO		
7	6,$ 0 -RXUQDORQ) LQDQFLDO0 DWKHP DWLFV	;	

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<4Ý	U @C0&	, 661 (, 661	&1@-
7	-RXUQDORI (FRQRP LF + LWRU\		
7	-RXUQDORI (FRQRP LF / LWHUDWXUH		
7	%XVLQHVV + LWRU\		
7	%XVLQHVV + LWRU\ 5 HYLHZ		
7	(FRQRP LF + LWRU\ 5 HYLHZ		
7	(XURSHDQ5 HYLHZ RI (FRQRP LF + LWRU\		
7	([SORUDWLRQVLQ(FRQRP LF + LWRU\		
7	$ FFRXQWLQJ + LWRULDQV-RXUQDO		
7	$ FFRXQWLQJ + LWRU\		
7	$ FFRXQWLQJ + LWRU\ 5 HYLHZ		
7	$ XWWDOLDQ(FRQRP LF + LWRU\ 5 HYLHZ		
7	&OLRP HWULFD		
7	(QWHUSULVH 6RFLHWV		
7	(XURSHDQ-RXUQDORI \WKH + LWRU\ RI (FRQRP LF 7KRXJKW		
7	) LQDQFLDO+ LWRU\ 5 HYLHZ		
7	+ LWRU\ RI 3RODWLFDO(FRQRP \		
7	-RXUQDORI (FRQRP LF 0 HWKRGRORJ\	;	
7	-RXUQDORI 0 DQDJHP HQW+ LWRU\		

<4Ý	U @C0&	,661 (,661	&1@-
7	-RXUQDORI 3RVW H\QHFRORJ\(FRQRPLFV		
7	-RXUQDORI VWH+LVWRU\ RI (FRQRPLF7KRXJKW		
7	/ DERU+LVWRU\	;	
7	/ DERXU+LVWRU\		
7	3RODQLFV 3KLORVRSK\ (FRQRPLFV	;	

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<4Ý	U @C0&	,661 (,661	&1@-
7	-RXUQDORI 3URGXFWQQRYDWRQ0 DQDJHPHQW		
7	5HVHDUFK3RO\		
7	,QGXVWULDO&RUSRUDWH&KDQJH		
7	-RXUQDORI 7HFKQRORJ\ 7UDQVIHU		
7	5 ' 0 DQDJHPHQW		
7	6FLHQFH7HFKQRORJ\ +XP DQ9 DOXHV		
7	7HFKQRORJLFDO)RUHFDVWLQJ DQG6RFLDO&KDQJH		
7	7HFKQRYDWRQ		
7	&UHDWLYLW\DQG,QQRYDWRQ0 DQDJHPHQW		
7	(FRQRPLFVRI ,QQRYDWRQDQG1HZ 7HFKQRORJ\		
7	(XURSHDQ-RXUQDORI ,QQRYDWRQ0 DQDJHPHQW		
7	(YDOXDWRQ		
7	)XWXUHV		
7	,QGXVW DQG,QQRYDWRQ		
7	,QQRYDWRQ2 UJDQL]DWRQ 0 DQDJHPHQW		
7	,QWHUQDWRQDO-RXUQDORI 7HFKQRORJ\ 0 DQDJHPHQW		
7	-RXUQDORI (QJLQHHULQJ DQG7HFKQRORJ\ 0 DQDJHPHQW		
5HVHDUFK(YDOXDWRQ			
7	5HVHDUFK7HFKQRORJ\ 0 DQDJHPHQW		
7	6FLHQFHDQG3XEOF3RO\		
7	6FLHQFH7HFKQRORJ\ DQG6RFLHW		
7	7HFKQRORJ\ $QDO\VLV 6WUDWHJLF0 DQDJHPHQW		

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<4Ý	U @C0&	,661 (,661	&1@-
7	-RXUQDORI / DERU(FRQRPLFV	;	

<4Ý	U @C0&	,661 (,661	&1@-
7	' HP RJUDSK\		
7	,QWHUQDWLRQDO LJUDWLRQ 5HYLHZ		
7	-RXUQDORI + XP DQ &DSLWDO		
7	-RXUQDORI + XP DQ 5HVRXUFHV	;	
7	-RXUQDORI 3RSXODWLRQ (FRQRPLFV		
7	-RXUQDORI 3RSXODWLRQ 5HVHDUFK		
7	/ DERXU (FRQRPLFV		
7	3RSXODWLRQ DQG' HYHORSPHQW 5HYLHZ		
7	' HP RJUDSKLF 5HVHDUFK		
7	(FRQRPLFV + XP DQ %LRORJ\	;	
7	) HP LQLVW (FRQRPLFV		
7	,QWHUQDWLRQDO LJUDWLRQ		
7	,=$ -RXUQDORI / DERU (FRQRPLFV		
7	3RSXODWLRQ		
7	3RSXODWLRQ 5HVHDUFK DQG 3ROLF\ 5HYLHZ		
7	3RSXODWLRQ 6WXGLHV		

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<4Ý	U @C0&	,661 (,661	&1@-
7	$P HUFDQ (FRQRPLF -RXUQDO 0 LFURHFRQRPLFV		
7	* DP HV DQG (FRQRPLF %HKDYLRU		
7	-RXUQDORI (FRQRPLF 7KHRU\		
7	7KHRUHWLFDO (FRQRPLFV		
7	(FRQRPLF 7KHRU\		
7	([SHULPHQWDO (FRQRPLFV		
7	-RXUQDORI %HKDYLRUDO HFRQRP0 DNLQJ		
7	-RXUQDORI (FRQRPLF %HKDYLRU 2UJDQL]DWLRQ		
7	-RXUQDORI 0 DWHP DWLFDO (FRQRPLFV		
7	6RFLDO&KRLFHDQG: HOIDUH		
7	%(-RXUQDORI 7KHRUHWLFDO (FRQRPLFV		
7	' \QDPLF* DP HV DQG$SSOLFDWLRQV		
7	,QWHUQDWLRQDO-RXUQDORI (FRQRPLF7KHRU\		
7	,QWHUQDWLRQDO-RXUQDORI * DP H7KHRU\		
7	-RXUQDORI %HKDYLRUDODQG([SHULPHQWDO (FRQRPLFV		
7	-RXUQDORI (FRQRPLF3VFKRORJ\		
7	-RXUQDORI ,QGXVWULDQDODQG7KHRUHWLFDO (FRQRPLFV		
7	0 DWHP DWLFDO6RFLDO6FLHQFHV		
7	5HYLHZ RI (FRQRPLF' HVLJQ		
7	7KHRU\ DQG' HFLVLRQ		

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<4Ý	U @C0&	,661 (,661	&1@-
7	$QQDOYRI 7RXULVP 5HVHDUFK		
7	-RXUQDORI 7UDYHO5HVHDUFK		
7	7RXULVP 0DQDJHPHQW		
7	&RUQHOO+RVSLVDOW4XDUWHUO		
7	&XUUHQW/VVXHVLQ7RXULVP		
7	(XURSHDQ6SRUW0DQDJHPHQW4XDUWHUO		
7	,QWHUQDWRQDO-RXUQDORI &RQWHPSRUDU +RVSLVDOW 0DQDJHPHQW		
7	,QWHUQDWRQDO-RXUQDORI +RVSLVDOW0DQDJHPHQW		
7	-RXUQDORI +RVSLVDOW 7RXULVP 5HVHDUFK		
7	-RXUQDORI /HLVXUH5HVHDUFK		
7	-RXUQDORI 6XVWDLQDEOH7RXULVP		
7	$VLD3DFLILF-RXUQDORI 7RXULVP 5HVHDUFK		
7	(YHQW0DQDJHPHQW		
7	,QWHUQDWRQDO-RXUQDORI 7RXULVP 5HVHDUFK		
7	-RXUQDORI ' HWHUQDWRQ0DUNHWQJ 0DQDJHPHQW	;	
7	-RXUQDORI +RVSLVDOW DQG7RXULVP 0DQDJHPHQW		
7	-RXUQDORI +RVSLVDOW0DUNHWQJ 0DQDJHPHQW		
7	-RXUQDORI 6SRUW0DQDJHPHQW		
7	-RXUQDORI 7UDYHO 7RXULVP 0DUNHWQJ		
7	-RXUQDORI 9DFDWRQ0DUNHWQJ		
7	/HLVXUH6FLHQFHV		
7	/HLVXUH6WXGLHV		
7	6SRUW0DQDJHPHQW5HYLHZ		
7	7RXULVP $QDOVLV		
7	7RXULVP (FRQRPLFV		
7	7RXULVP *HRJUDSKLHV		
7	7RXULVP 0DQDJHPHQW3HUVSHFWLYHV		
7	7RXULVP 5HFUHDWRQ5HVHDUFK		

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<4Ý	U @C0&	,661 (,661	&1@-
7	$PHULFDQ-RXUQDORI $JULFXOWXUDO(FRQRPLFV		
7	$JULFXOWXUDO(FRQRPLFV		

<4Ý	U @C0&	,661 (,661	&1@-
7	(XURSHDQ5HYLHZ RI $JULFXOWXUDO(FRQRPLFV		
7	)RRG3RDF\		
7	-RXUQDORI $JULFXOWXUDO(FRQRPLFV	;	
7	$SSOLHG(FRQRPLF3HUVSHFWLYHVDQG3RDF\		
7	$XVWUDOLDQ-RXUQDORI $JULFXOWXUDODQG5HVRXUFH(FRQRPLFV	;	
7	&DQDGLDQ-RXUQDORI $JULFXOWXUDO(FRQRPLFV		
7	&KLQD$JULFXOWXUDO(FRQRPLF5HYLHZ	;	
7	-RXUQDORI $JULFXOWXUDODQG5HVRXUFH(FRQRPLFV		
7	0DULQH3RDF\	;	
7	0DULQH5HVRXUFH(FRQRPLFV		

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<4Ý	U @C0&	,661 (,661	&1@-
7	(FRQRPLF*HRJUDSK\		
7	-RXUQDORI 8UEDQ(FRQRPLFV		
7	(XURSHDQ8UEDQDQG5HJLRQDO6WXGLHV		
7	*OREDO1HZ7RUNV		
7	-RXUQDORI (FRQRPLF*HRJUDSK\		
7	-RXUQDORI 5HJLRQDO6FLHQFH		
7	-RXUQDORI 5XUDO6WXGLHV		
7	-RXUQDORI 8UEDQ$IIDLUV		
7	3DSHUVLQ5HJLRQDO6FLHQFH		
7	5HJLRQDO6FLHQFHDQG8UEDQ(FRQRPLFV		
7	5HJLRQDO6WXGLHV		
7	8UEDQ6WXGLHV		
7	$QQDOVRI 5HJLRQDO6FLHQFH		
7	&DPEULGJH-RXUQDORI 5HJLRQV(FRQRP\DQG6RFLHWLHV		
7	(FRQRPLF'HYHORSPHQW4XDUWHUO\		
7	(FRQRPLF6\VWHPV5HVHDUFK		
7	*URZWKDQG&KDQJH		
7	,QWHUQDWLRQDO-RXUQDORI 8UEDQDQG5HJLRQDO5HVHDUFK		
7	,QWHUQDWLRQDO5HJLRQDO6FLHQFH5HYLHZ		
7	-RXUQDORI (YROXWLRQDU\(FRQRPLFV		
7	-RXUQDORI 3URGXFWLYLW\$QDO\VLV	;	

<4Ý	U @C0&	, 661 (, 661	&1@-
7	3URJUHWVLQ+XPDQ* HRJUDSK\		
7	6SDWDO(FRQRPLF$QDOVLV		

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<4Ý	U @C0&	, 661 (, 661	&1@-
7	+XPDQ5HVRXUFH0DQDJHPHQW		
7	+XPDQ5HVRXUFH0DQDJHPHQW-RXUQDO		
7	,QGXVWUDO5HODWRQV		
7	%UWWK-RXUQDORI ,QGXVWUDO5HODWRQV		
7	%XVLQHVV(VKLFV4XDUWHUO	;	
7	+XPDQ&RPPXQLFDWRQ5HVHDUFK		
7	+XPDQ5HVRXUFH0DQDJHPHQW5HYLHZ		
7	,/ 5 5HYLHZ		
7	,QGXVWUDO/DZ -RXUQDO		
7	,QGXVWUDO5HODWRQV-RXUQDO		
7	,QWHUQDWRQDO-RXUQDORI +XPDQ5HVRXUFH 0DQDJHPHQW		
7	-RXUQDORI %XVLQHVV(VKLFV		
7	1HZ 7HFKQRORJ\ : RUNDQG(PSOR\PHQW		
7	: RUNDQG2FFXSDWRQV		
7	: RUN(PSOR\PHQWDQG6RFLHW		
7	$VLD3DFLILF-RXUQDORI +XPDQ5HVRXUFHV		
7	%XVLQHVV(VKLFV $ (XURSHDQ5HYLHZ		
7	(FRQRPLFDQG,QGXVWUDO HPRFUDF\	;	
7	(PSOR\HH5HODWRQV		
7	(XURSHDQ-RXUQDORI ,QGXVWUDO5HODWRQV		
7	+XPDQ5HVRXUFH' HYHORSPHQW/QWHUQDWRQDO		
7	+XPDQ5HVRXUFH' HYHORSPHQW5HYLHZ		
7	,QWHUQDWRQDO-RXUQDORI 0DQSRZHU		
7	,QWHUQDWRQDO-RXUQDORI 6HOHFWRQDQG$VVHVVPHQW	;	
7	,QWHUQDWRQDO/DERXU5HYLHZ		
7	-RXUQDORI ,QGXVWUDO5HODWRQV		
7	/ $%2 8 5 5HYLHZ RI / DERXU(FRQRPLFVDQG ,QGXVWUDO5HODWRQV		
7	3HUVRQQHO5HYLHZ		
7	3XEOLF3HUVRQQHO0DQDJHPHQW		
7	5HODWRQV,QGXVWUHOHV,QGXVWUDO5HODWRQV	;	

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<4Ý	U @C0&	, 661 (, 661	&1@-
7	-RXUQDORI VKH$ VVRFLDWRQ I RU, QI RUP DWRQ6FLHQFH DQG7HFKQRORJ\		
7	,QI RUP DWRQ3URFHVVLQJ 0 DQDJHP HQW		
7	-RXUQDORI ' RFXP HQWDWRQ		
7	-RXUQDORI ,QI RUP DWRQ6FLHQFH		
7	-RXUQDORI ,QI RUP HWLFV		
7	/ LEUDU\ ,QI RUP DWRQ\VFLHQFH5 HVHDUFK		
7	6FLHQWRP HWLFV		
7	-RXUQDORI $ FDGHP LF / LEUDULDQVKLS		
7	-RXUQDORI 6FKRODUO 3XEOVKLQJ		
7	/ HDUQHG3XEOVKLQJ		
7	/ LEUDU\ + L7HFK		
7	/ LEUDU\ 4 XDUWHUO		
7	2 QOLQH,QI RUP DWRQ5 HYLHZ		
7	4 XDQWDWDWYH6FLHQFH6\VWGLHV		

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<4Ý	U @C0&	, 661 (, 661	&1@-
7	+ HDOWK(FRQRP LFV		
7	-RXUQDORI + HDOWK(FRQRP LFV		
7	$ P HULFDQ-RXUQDORI + HDOWK(FRQRP LFV		
7	$ P HULFDQ-RXUQDORI 3XEOF + HDOWK		
7	+ HDOWK6HUYLFHV5 HVHDUFK		
7	0 HGLFDO HFLVLRQ0 DNLQJ	;	
7	6RFLDO6FLHQFH 0 HGLFLQH		
7	6RFLRORJ\ RI + HDOWK ,OOQHVV		
7	(XURSHDQ-RXUQDORI + HDOWK(FRQRP LFV		
7	+ HDOWK&DUH0 DQDJHP HQW5 HYLHZ		
7	+ HDOWK&DUH0 DQDJHP HQW6FLHQFH		
7	+ HDOWK3ROLF\		
7	,QWHUQDWRQDO-RXUQDORI + HDOWK(FRQRP LFV DQG 0 DQDJHP HQW		
7	,QWHUQDWRQDO-RXUQDORI 0 HGLFDO,QI RUP DWFV		
7	,QWHUQDWRQDO-RXUQDORI 7HFKQRORJ\ $ VVHVVP HQWLQ + HDOWK&DUH		

<4Ý	U @C0&	, 661 (, 661	&1@-
7	-RXUQDORI + HDOWK 3RODWFV 3RODF\ DQG/ DZ		
7	-RXUQDORI + HDOWK 6HUYLFHV5 HVHDUFK 3RODF\		
7	-RXUQDORI VWH$ P HUILFDQ0 HGLFDO,QI RUP DWFV $ VVRFLDWRQ		
7	0 HGLFDO&DUH		
7	0 LOEDQN4 XDUWHUO	;	
7	2 FFXSDWRQDODQG(QYLURQP HQWDO0 HGLFLQH		
7	3KDUP DFR(FRQRP LFV		
7	4 XDOWV RI / LLH5 HVHDUFK		
7	6FDQGLQDYLDQ-RXUQDORI : RUN (QYLURQP HQW + HDOWK		

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<4Ý	U @C0&	, 661 (, 661	&1@-
7	-RXUQDORI $ SSOLHG3V\ FKRORJ\		
7	2 UJDQL] DWRQDO%HKDYLRUDQG+ XP DQ' HFLVLRQ 3URFHVVHV		
7	3HUVRQQHO3V\ FKRORJ\		
7	3V\ FKRORJLFDO6FLHQFH		
7	$ QQXDO5 HYLHZ RI 3V\ FKRORJ\		
7	$ SSOLHG3V\ FKRORJ\	;	
7	%ULWWK-RXUQDORI 3V\ FKRORJ\		
7	%ULWWK-RXUQDORI 6RFLDO3V\ FKRORJ\		
7	&XUUHQW LUHFWRQVLQ3V\ FKRORJLFDO6FLHQFH		
7	(XURSHDQ-RXUQDORI 6RFLDO3V\ FKRORJ\		
7	-RXUQDORI %XVLQHVVDQG3V\ FKRORJ\		
7	-RXUQDORI ([SHULP HQWDO3V\ FKRORJ\ $ SSOLHG	;	
7	-RXUQDORI ([SHULP HQWDO6RFLDO3V\ FKRORJ\		
7	-RXUQDORI 2 FFXSDWRQDODQG2 UJDQL] DWRQDO 3V\ FKRORJ\		
7	-RXUQDORI 2 FFXSDWRQDO+ HDOWK3V\ FKRORJ\		
7	-RXUQDORI 3HUVRQDOWV DQG6RFLDO3V\ FKRORJ\		
7	-RXUQDORI 9 RFDWRQDO%HKDYLRU		
7	3HUVRQDOWV DQG6RFLDO3V\ FKRORJ\ %XOOHWQ		
7	3V\ FKRORJLFDO%XOOHWQ		
7	3V\ FKRORJ\ RI : RP HQ4 XDUWHUO		
7	: RUN DQG6WUHVV		
7	$ FWD3V\ FKRORJLFD		
7	$ GYDQFHVLQ([SHULP HQWDO6RFLDO3V\ FKRORJ\		
7	&RJQLWLYH3V\ FKRORJ\		

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7	(UJRQRPLFV		
7	*URXS' \QDPLFV7KHRU\UHVHDUFKDQGSUDFWLFH		
7	+XPDQ3HUIRUPDQFH		
7	,QWHUQDWLRQDO-RXUQDORI,QWHUFXOWXUDO5HODWLRQV		
7	-RXUQDORI&DUH\$VVHVVPHQW		
7	-RXUQDORI&URVV&XOWXUDO3V\FKRORJ\		
7	-RXUQDORI0DQDJHULDO3V\FKRORJ\		
7	3HUVRQDOLW\DQG,QGLYLGXDO'LIIHUHQFHV		
7	3V\FKRORJLFDO5HVHDUFK		
7	3V\FKRPHWULND		
7	4XDUWHUO\-RXUQDORI([SHULPHQWDO3V\FKRORJ\		
7	6PDOO*URXS5HVHDUFK		
7	6WUHVVDQG+HDOWK		

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7	(XURSHDQ-RXUQDORI,QRUP DWRQ6\VWHPV	;	
7	,QRUP DWRQ6\VWHPV5HVHDUFK		
7	-RXUQDORI0DQDJHPHQW/QRUP DWRQ6\VWHPV		
7	-RXUQDORI\WH$\VWRFDWRQIRU,QRUP DWRQ6\VWHPV		
7	0,64XDUWHUO\		
7	$&0 7UDQVDFWRQVRQ&RP SXWHU+XP DQ ,QWHUDFWRQ		
7	$&0 7UDQVDFWRQVRQ,QRUP DWRQ6\VWHPV		
7	$&0 7UDQVDFWRQVRQ. QRZOHGJH' LVFRYHU\ IURP ' DWD		
7	$&0 7UDQVDFWRQVRQ0 DQDJHPHQWQRUP DWRQ 6\VWHPV	;	
7	&RPP XQLFDWRQVRI\WH$&0		
7	&RPSXWHUVLQ+XP DQ%HKDYLRU		
7	' DWD%DVHIRU$GYDQFHVLQ,QRUP DWRQ6\VWHPV		
7	' HFLVRQ6XSSRUW6\VWHPV		
7	,(((7UDQVDFWRQVRQ. QRZOHGJHDQG' DWD (QJLQHHULQJ		
7	,(((7UDQVDFWRQVRQ6RIWZDUH(QJLQHHULQJ		
7	,QRUP DWRQ 0 DQDJHPHQW		
7	,QRUP DWRQDQG2UJDQL]DWRQ		
7	,QRUP DWRQDQG6RFLDO7HFKQRORJ\		
7	,QRUP DWRQ6FLHQFHV		
7	,QRUP DWRQ6RFLHW\		

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7	,QIRUP DWRQ6\ VWP V) URQWHUV		
7	,QIRUP DWRQ6\ VWP V-RXUQDO		
7	,QIRUP DWRQ7HFKQRORJ\ 3HRSOH		
7	,QWUQDWRQDO-RXUQDORI (OHFWURQLF &RP P HUFH		
7	,QWUQDWRQDO-RXUQDORI ,QIRUP DWRQ0 DQDJHP HQW		
7	,QWUQHW5 HVHDUFK		
7	-RXUQDORI ,QIRUP DWRQ7HFKQRORJ\		
7	-RXUQDORI . QRZ OHGJH0 DQDJHP HQW		
7	-RXUQDORI 6WDWMJLF ,QIRUP DWRQ6\ VWP V		
7	0 ,6 4 XDUWHUO ([HFXWYH		
7	$&0 &RP SXWQJ 6XUYH\ V		
7	$,6 7UDQVDFWRQVRQ+XP DQ&RP SXWU,QWUDFWRQ		
7	%HKDYLRXU ,QIRUP DWRQ7HFKQRORJ\	;	
7	%XVLQHW ,QIRUP DWRQ6\ VWP V(QJLQHHULQJ		
7	&RP P XQLFDWRQVRI VKH$ VWRFLDWRQIRU,QIRUP DWRQ 6\ VWP V		
7	&RP SXWU6XSSRUWG&RRSHUDWYH: RUN		
7	&RP SXWUV 6HFXULW		
7	&RP SXWUVLQ,QGXVW		
7	' DWD . QRZ OHGJH(QJLQHHULQJ	;	
7	(OHFWURQLF &RP P HUFH5 HVHDUFK		
7	(OHFWURQLF &RP P HUFH5 HVHDUFK DQG$ SSOLFDWRQV		
7	(OHFWURQLF 0 DUNHW		
7	(QWUSULVH,QIRUP DWRQ6\ VWP V		
7	([SHUW6\ VWP V		
7	([SHUW6\ VWP VZ LWK$ SSOLFDWRQV		
7	+XP DQ&RP SXWU,QWUDFWRQ		
7	,QGXVWUDO0 DQDJHP HQW ' DWD6\ VWP V		
7	,QIRUP DWRQ&RP P XQLFDWRQ DQG6RFLHW	;	
7	,QIRUP DWRQ6\ VWP V		
7	,QIRUP DWRQ6\ VWP VDQGH %XVLQHW0 DQDJHP HQW		
7	,QIRUP DWRQ6\ VWP V0 DQDJHP HQW		
7	,QIRUP DWRQ7HFKQRORJ\ DQG0 DQDJHP HQW	;	
7	,QIRUP DWRQ7HFKQRORJ\ IRU' HYHORSP HQW		
7	,QWUQDWRQDO-RXUQDORI +XP DQ&RP SXWU6WXGLHV		
7	-RXUQDORI &RP SXW0 HGLDWG&RP P XQLFDWRQ		
7	-RXUQDORI &RP SXWU,QIRUP DWRQ6\ VWP V		
7	-RXUQDORI (OHFWURQLF &RP P HUFH5 HVHDUFK		
7	-RXUQDORI (QWUSULVH,QIRUP DWRQ0 DQDJHP HQW		
7	-RXUQDORI * OREDO,QIRUP DWRQ0 DQDJHP HQW		
7	-RXUQDORI ,QIRUP DWRQ7HFKQRORJ\ 7KHRU DQG $SSOLFDWRQ		

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7	-RXUQDORI 0 DQXI DFWXULQJ 6\ VWMP V		
7	-RXUQDORI 2 UJ DQ] DWRQDO&RP SXWQJ DQG (OHFWURQLF &RP P HUFH		
7	-RXUQDORI VKH$ &0		
7	. QRZ OHGJH 0 DQDJHP HQW5 HVHDUFK 3UDFWFH		
7	. QRZ OHGJH %DVHG6\ VWMP V		
7	6FDQGLQDYLDQ-RXUQDORI ,QI RUP DWRQ6\ VWMP V		

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7	$ FDGHP \ RI 0 DQDJHP HQW$ QQDOV		
7	$ FDGHP \ RI 0 DQDJHP HQW-RXUQDO		
7	$ FDGHP \ RI 0 DQDJHP HQW5 HYLHZ		
7	$ GP LQLVWUDWLYH6FLHQFH4 XDUWHUO		
7	-RXUQDORI 0 DQDJHP HQW		
7	-RXUQDORI 0 DQDJHP HQW6VXGLHV		
7	$ FDGHP \ RI 0 DQDJHP HQW' LVFRYHULHV		
7	$ FDGHP \ RI 0 DQDJHP HQW3HUVSHFWLYHV		
7	%ULWLVK-RXUQDORI 0 DQDJHP HQW		
7	%XVLQHVV 6RFLHW		
7	%XVLQHVV6WUDWJ\ DQG VKH(QYLURQP HQW		
7	&DOLRUQLD0 DQDJHP HQW5 HYLHZ		
7	* HQGHU 6RFLHW		
7	+ DUYDUG%XVLQHVV5 HYLHZ		
7	,QWHUQDWRQDO-RXUQDORI 0 DQDJHP HQW5 HYLHZ V		
7	-RXUQDORI %XVLQHVV5 HVHDUFK		
7	0 ,7 6ORDQ0 DQDJHP HQW5 HYLHZ		
7	$ XVWUDODQ-RXUQDORI 0 DQDJHP HQW		
7	%54 %XVLQHVV5 HVHDUFK 4 XDUWHUO		
7	%XVLQHVV+ RUL] RQV		
7	&DQDGLDQ-RXUQDORI $ GP LQLVWUDWLYH6FLHQFHV		
7	&RUSRUDWH6RFLDO5 HVSRQVLELOLW DQG(QYLURQP HQWDO 0 DQDJHP HQW		
7	(XURSHDQ%XVLQHVV5 HYLHZ	;	
7	(XURSHDQ0 DQDJHP HQW-RXUQDO		
7	(XURSHDQ0 DQDJHP HQW5 HYLHZ		
7	,QWHUQDWRQDO6VXGLHVRI 0 DQDJHP HQW 2 UJ DQ] DWRQ		

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7	-RXUQDORI %XVLQHVV/DZ		
7	-RXUQDORI * HQHUDO DQDJHPHQW		
7	-RXUQDORI ,QWHUFXOWXUDO&DSLWDO		
7	-RXUQDORI 0 DQDJHPHQW/QTXLU		
7	0 DQDJHPHQW HFLVLRQ		
7	5HYLHZ RI 0 DQDJHULDO6FLHQFH		
7	6FDQGLQDYLDQ-RXUQDORI 0 DQDJHPHQW		
7	6FKP DØHQEDFK-RXUQDORI %XVLQHVV5HVHDUFK		
7	6H[5RØV		
7	6RFLHWDQG%XVLQHVV5HYLHZ		

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7	$PHULFDQ(FRQRPLF5HYLHZ		
7	(FRQRPHWULFD		
7	(FRQRPLF-RXUQDO		
7	,QWHUQDWLRQDO(FRQRPLF5HYLHZ		
7	-RXUQDORI (FRQRPLF3HUVSHFWLYHV		
7	-RXUQDORI 3RODWDO(FRQRP\		
7	-RXUQDORI \WH(XURSHDQ(FRQRPLF$VVRFLDWLRQ		
7	4XDUWHUO-RXUQDORI (FRQRPLFV		
7	5HYLHZ RI (FRQRPLF6WXGLHV		
7	5HYLHZ RI (FRQRPLFVDQG6WDWLVWLFV		
7	$PHULFDQ(FRQRPLF5HYLHZ ,QVLJKWV	;	
7	&DPEULGJH-RXUQDORI (FRQRPLFV	;	
7	&DQDGLDQ-RXUQDORI (FRQRPLFV		
7	(FRQRPLF,QTXLU		
7	(FRQRPLFD		
7	(FRQRPLFV//HWWHUV		
7	(XURSHDQ(FRQRPLF5HYLHZ		
7	-RXUQDORI /DZ (FRQRPLFV		
7	-RXUQDORI /DZ (FRQRPLFV 2UJDQL]DWLRQ		
7	. \NØRV		
7	2[IRUG(FRQRPLF3DSHUV		
7	4XDQWLWDWLYH(FRQRPLFV		
7	$PHULFDQ/DZ DQG(FRQRPLFV5HYLHZ		
7	$QQDOVRI (FRQRPLFVDQG6WDWLVWLFV	;	
7	$QQXDO5HYLHZ RI (FRQRPLFV		
7	&RQWHPSRUDU\ (FRQRPLF3RØF\		
7	' HHQFHDQG3HDFH(FRQRPLFV		

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7	(FRQRPLF5HFRUG		
7	(FRQRPLFVDQG3KLORVRSK\		
7	(XURSHDQ-RXUQDORI3RDWFDQ(FRQRP\		
7	*HUPDQ(FRQRPLF5HYLHZ		
7	,QWHUQDWLRQDO5HYLHZ RI/DZ DQG(FRQRPLFV		
7	-RXUQDORI%XVLQHVV(FRQRPLFV		
7	-RXUQDORI&XOWXUDO(FRQRPLFV		
7	-RXUQDORI(FRQRPLF,VVXHV		
7	-RXUQDORI(FRQRPLFV		
7	-RXUQDORI,QWHUQDWLRQDO(FRQRPLFV		
7	-RXUQDORI3HQVLRQ(FRQRPLFV)LQDQFH		
7	-RXUQDORI3XEOLF(FRQRPLF7KHRU\		
7	2[IRUG5HYLHZ RI(FRQRPLF3ROLF\	;	
7	3XEOLF&KRLFH		
7	5HYLHZ RI3RDWFDQ(FRQRP\		
7	6FDQGLQDYLDQ-RXUQDORI(FRQRPLFV		
7	6RXWKHUQ(FRQRPLF-RXUQDO		

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<4Ý	U @C0&	,661 (,661	&1@-
7	-RXUQDORI&RQVXPHU5HVHDUFK		
7	-RXUQDORI0DUNHWLQJ		
7	-RXUQDORI0DUNHWLQJ5HVHDUFK		
7	0DUNHWLQJ6FLHQFH		
7	(XURSHDQ-RXUQDORI0DUNHWLQJ		
7	,QGXVWULDO0DUNHWLQJ0DQDJHPHQW		
7	,QWHUQDWLRQDO-RXUQDORI5HVHDUFKLQ0DUNHWLQJ		
7	,QWHUQDWLRQDO0DUNHWLQJ5HYLHZ		
7	-RXUQDORI$GYHUWLVLQJ		
7	-RXUQDORI$GYHUWLVLQJ5HVHDUFK		
7	-RXUQDORI&RQVXPHU3V\FKRORJ\		
7	-RXUQDORI,QWHUDFWLYH0DUNHWLQJ		
7	-RXUQDORI,QWHUQDWLRQDO0DUNHWLQJ	;	
7	-RXUQDORI3XEOLF3ROLF\ 0DUNHWLQJ		
7	-RXUQDORI5HWDLOLQJ		
7	-RXUQDORI6HUYLFH5HVHDUFK		
7	-RXUQDORI\WH$FDGHP\ RI0DUNHWLQJ6FLHQFH		
7	0DUNHWLQJ/HWWHUV		

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7	0 DUN-HWQJ 7KHRU		
7	3\VFKRORJ\ 0 DUN-HWQJ		
7	4XDQWXPDWLYH0 DUN-HWQJ DQG(FRQRPLFV		
7	$GYDQFHVLQ&RQXPHU5HVHDUFK		
7	%XVLQHVV3URFHVV0 DQDJHPHQWRXUQDO		
7	&RQXPSWLRQ0 DUN-HW &XOWXUH		
7	,QWHUQDWLRQDO-RXUQDORI $GYHUWLVLQJ		
7	,QWHUQDWLRQDO-RXUQDORI &RQXPHU6WXGLHV		
7	,QWHUQDWLRQDO-RXUQDORI 0 DUN-HWV6HVHDUFK		
7	,QWHUQDWLRQDO-RXUQDORI 5HWDLO ' LVWULEXWLRQ 0 DQDJHPHQW		
7	-RXUQDORI %UDQG0 DQDJHPHQW	;	
7	-RXUQDORI %XVLQHVV ,QGXVWULDO DUN-HWQJ		
7	-RXUQDORI %XVLQHVV\VR%XVLQHVV0 DUN-HWQJ	;	
7	-RXUQDORI &RPPXQLFDWLRQ		
7	-RXUQDORI &RQXPHU$IIDLUV		
7	-RXUQDORI &RQXPHU%HKDYLRXU		
7	-RXUQDORI &RQXPHU0 DUN-HWQJ		
7	-RXUQDORI * OREDO DUN-HWQJ		
7	-RXUQDORI 0 DFURP DUN-HWQJ		
7	-RXUQDORI 0 DUN-HWQJ 0 DQDJHPHQW	;	
7	-RXUQDORI 0 DUN-HWQJ 7KHRU DQG3UDFWLFH		
7	-RXUQDORI 3HUVRQDO6HOOLQJ DQG6DOHV0 DQDJHPHQW		
7	-RXUQDORI 5HWDLOLQJ DQG&RQXPHU6HUYLFHV		
7	-RXUQDORI 6HUYLFH0 DQDJHPHQW		
7	-RXUQDORI 6HUYLFH7KHRU DQG3UDFWLFH		
7	-RXUQDORI 6HUYLFHV0 DUN-HWQJ		
7	-RXUQDORI 6WDWLVWLF0 DUN-HWQJ	;	
7	6HUYLFH,QGXVWULHV-RXUQDO		

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7	(XURSHDQ-RXUQDORI 2 SHUDWLRQDO5HVHDUFK		
7	,1)250 6-RXUQDORI&RP SXWLQJ		
7	0 DQDJHPHQW6FLHQFH		
7	0 DWKHP DWLFDO8UJUDP PLQJ		
7	0 DWKHP DWLFVRI 2 SHUDWLRQV5HVHDUFK	;	
7	2 SHUDWLRQV5HVHDUFK	;	
7	$&0 7UDQVDFWLRQV0 RGHOLQJ DQG&RP SXWHU 6LP XODWLRQ		

<4Ý	U @C0&	,661 (,661	&1@-
7	$QQDOYR 2SHUDWRQV5HVHDUFK		
7	&RPSXWHUV ,QGXVWULDO(QJLQHHULQJ		
7	&RPSXWHUV 2SHUDWRQV5HVHDUFK		
7	' HFLVRQ$QDOVLV		
7	' HFLVRQ6FLHQFHV		
7	)X]]\ 2SWLPL]DWRQDQG' HFLVRQ0DNLQJ		
7	* URXS' HFLVRQDQG1HJRWLDWLRQ		
7	,(((7UDQVDFWLRQV RQ&\EHUQHWLFV		
7	,(((7UDQVDFWLRQV RQ(YROXWLRQDU\ &RPSXWDWLRQ	;	
7	,(((7UDQVDFWLRQV RQ6\VWHPV 0DQDQG &\EHUQHWLFV 6\VWHPV		
7	,,6(7UDQVDFWLRQV	;	
7	,1)250 6-RXUQDORQ$SSOLHG$QDOVLV		
7	,1)250 6-RXUQDORQ2SWLPL]DWLRQ		
7	,QWHUQDWLRQDO-RXUQDORI)RUHFDVWLQJ		
7	,QWHUQDWLRQDO-RXUQDORI ,QIRUPDWLRQ7HFKQRORJ\ ' HFLVRQ0DNLQJ		
7	-RXUQDORI +HXULVWLFV		
7	-RXUQDORI 0DQDJHPHQW6FLHQFHDQG(QJLQHHULQJ		&
7	-RXUQDORI 2SWLPL]DWLRQ7KHRU\ DQG$SSOLFDWLRQV		
7	-RXUQDORI 6FKHGXOLQJ		
7	-RXUQDORI WKH2SHUDWLRQDO5HVHDUFK6RFLHWV		
7	-XGJPHQWDQG' HFLVRQ0DNLQJ		
7	1DYDO5HVHDUFK/RJLVWLFV	;	
7	2PHJD		
7	2SHUDWRQV5HVHDUFK/HWWHUV		
7	25 6SHFWUP		
7	6,$0 -RXUQDORQ2SWLPL]DWLRQ		
7	25		
7	$VLD3DFLILF-RXUQDORI 2SHUDWLRQDO5HVHDUFK		
7	&RPSXWDWLRQDO2SWLPL]DWLRQDQG$SSOLFDWLRQV		
7	' HFLVRQ		
7	(YROXWLRQDU\ &RPSXWDWLRQ		
7	)OH[LEOH6HUYLFHV DQG0DQXIDFWXULQJ-RXUQDO		
7	* UHHN6\VWHPV7KHRU\ DQG$SSOLFDWLRQ		
7	,QWHUQDWLRQDO7UDQVDFWLRQVLQ2SHUDWLRQDO5HVHDUFK		
7	-RXUQDORI)RUHFDVWLQJ		
7	-RXUQDORI *OREDO2SWLPL]DWLRQ		
7	-RXUQDORI *UHHN6\VWHP		
7	-RXUQDORI 0DQDJHPHQW$QDOVLV		
7	-RXUQDORI 6\VWHPV(QJLQHHULQJ DQG(FRQRPLFV		1
7	-RXUQDORI 6\VWHPV6FLHQFHDQG&RPSOH[LW\		2

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7	-RXUQDORI 6\ VWMP V6FLHQFH DQG6\ VWMP V (QJLQHHULQJ		1
7	0 DWKHP DWMFDO0 HWKRGVRI 2 SHUDWRQV5 HVHDUFK		
7	6,$ 0 -RXUQDORQ&RP SXWLQJ		
7	6VRFKDWMF 6\ VWMP V		
7	6\ VWMP ' \ QDP LFV5 HYLHZ		
7	6\ VWMP V5 HVHDUFK DQG%HKDYLRUDO6FLHQFH		

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7	-RXUQDORI 2 SHUDWRQV0 DQDJHP HQW		
7	0 DQXI DFWXULQJ 6HUYLFH2 SHUDWRQV0 DQDJHP HQW		
7	3URGXFWRQ DQG2 SHUDWRQV0 DQDJHP HQW		
7	,QWHUQDWRQDO-RXUQDORI 2 SHUDWRQV 3URGXFWRQ 0 DQDJHP HQW		
7	,QWHUQDWRQDO-RXUQDORI 3K\ VLFDO LWWLEXWRQ / RJLWMFV0 DQDJHP HQW		
7	,QWHUQDWRQDO-RXUQDORI 3URGXFWRQ(FRQRP LFV		
7	,QWHUQDWRQDO-RXUQDORI 3URGXFWRQ5 HVHDUFK		
7	-RXUQDORI %XVLQHW/ RJLWMFV		
7	-RXUQDORI 3XUFKDVLQJ DQG6XSSO0 0 DQDJHP HQW		
7	-RXUQDORI 4 XDOW 7 HFKQRORJ\		
7	-RXUQDORI 6XSSO0 &KDLQ0 DQDJHP HQW		
7	3URGXFWRQ3ODQQLQJ DQG&RQWRO		
7	6HUYLFH6FLHQFH		
7	6XSSO0 &KDLQ0 DQDJHP HQW		
7	,QWHUQDWRQDO-RXUQDORI / RJLWMFV0 DQDJHP HQW		
7	,QWHUQDWRQDO-RXUQDORI / RJLWMFV5 HVHDUFK DQG $ SSOFDWRQV		
7	,QWHUQDWRQDO-RXUQDORI 4 XDOW 5 HODELOW 0 DQDJHP HQW	;	
7	7RWDO4 XDOW 0 DQDJHP HQW %XVLQHW([FHOHQFH		

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7	6WDWMJLF 0 DQDJHP HQW-RXUQDO		
7	* ORED06WDWMJ\ -RXUQDO		
7	/ RQJ 5 DQJH3ODQQLQJ		

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7	6WDWLF2UJDQL]DWRQ		
7	6WDWLF\6FLHQFH		
7	$GYDQFHV6WDWLF0DQDJHPHQW		
7	%HQFKPDUNLQJ		
7	%XVLQHVV6WDWLF\5HYLHZ		
7	-RXUQDORI%XVLQHVV6WDWLF\		
7	0#Q#JHPHQW		

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7	(FRORJLFDO(FRQRPLFV		
7	-RXUQDORI(QYLURQPHQWDO(FRQRPLFVDQG0DQDJHPHQW		
7	&OLPDWH3ROLF\		
7	(QHUJ\(FRQRPLFV		
7	(QHUJ\-RXUQDO		
7	(QHUJ\3ROLF\		
7	(QYLURQPHQWDG'HYHORSPHQW(FRQRPLFV	;	
7	(QYLURQPHQWDG3ODQQLQJ$(FRQRPLFV DQG6SDFH	;	
7	(QYLURQPHQWDG3ODQQLQJ%8UEDQ$QDO\VHVDQG&LW6FLHQFH		
7	(QYLURQPHQWDG3ODQQLQJ'6RFLHWDQG6SDFH		
7	(QYLURQPHQWDODG5HVRXUFH(FRQRPLFV		
7	(QYLURQPHQWDO6FLHQFH3ROLF\		
7	*OREDO(QYLURQPHQWDO&KDQJH		
7	-RXUQDORI(QYLURQPHQWDO DQDJHPHQW		
7	-RXUQDORI(QYLURQPHQWDO3ODQQLQJ DQG0DQDJHPHQW		
7	-RXUQDORI,QGXVWULDO(FRQRPLFV		
7	-RXUQDORI\WH$VVRFLDWLRQRI(QYLURQPHQWDODG5HVRXUFH(FRQRPLVWV		
7	/DQG(FRQRPLFV		
7	5HVRXUFHDQG(QHUJ\(FRQRPLFV		
7	5HYLHZRI(QYLURQPHQWDO(FRQRPLFVDQG3ROLF\		
7	:DWHU5HVRXUFHV5HVHDUFK		
7	$QQXDO5HYLHZRI5HVRXUFH(FRQRPLFV		
7	$XVWUDOLDQ-RXUQDORI(QYLURQPHQWDO 0DQDJHPHQW		
7	&DUERQ0DQDJHPHQW		
7	&OLPDWH&KDQJH(FRQRPLFV		

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7	(FRQRPLFVRI (QHUJ\ DQG(QYLURQPHQWDO3ROLF\		
7	(QYLURQPHQWDG3DQQLQJ & 3RDWFVDQG6SDFH	;	
7	-RXUQDORI &OLPDWH3URGXFWLRQ		
7	-RXUQDORI)RUHVW(FRQRPLFV		
7	/ DQG8VH3RDF\		
7	5HVRXUFHV3RDF\		

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7	-RXUQDORI 2UJDQL]DWRQDO%HKDYLRU		
7	/ HDGHUVKLS4XDUWHUO\		
7	2UJDQL]DWRQ6FLHQFH		
7	2UJDQL]DWRQ6WXGLHV		
7	* HQGHU: RUN DQG2UJDQL]DWRQ		
7	* URXS 2UJDQL]DWRQ0 DQDJHP HQW		
7	+XP DQ5HVRXUFHV		
7	0 DQDJHP HQWDQG2UJDQL]DWRQ5HYLHZ		
7	0 DQDJHP HQW/HDUQLQJ		
7	2UJDQL]DWRQ		
7	2UJDQL]DWRQ (QYLURQP HQW		
7	2UJDQL]DWRQDO5HVHDUFK0 HWKRGV		
7	5HVHDUFKLQ2UJDQL]DWRQDO%HKDYLRU		
7	5HVHDUFKLQ\WH6RFLRBJ\ RI 2UJDQL]DWRQV	;	
7	(XURSHDQ-RXUQDORI : RUN DQG2UJDQL]DWRQDO 3V\FKRBJ\	;	
7	* URXS3URFHVVHV ,QWHUJURXS5HODWRQV		
7	+XP DQ) DFWRUV		
7	-RXUQDORI $SSOLHG%HKDYLRUDO6FLHQFH		
7	-RXUQDORI 2UJDQL]DWRQDO%HKDYLRU0 DQDJHP HQW		
7	-RXUQDORI 2UJDQL]DWRQDO&KDQJH0 DQDJHP HQW		
7	-RXUQDORI 3URIHVVLRQV DQG2UJDQL]DWRQ		
7	0 DQDJHP HQW&RP P XQLFDWRQ4XDUWHUO\		
7	1HJRWLDWRQ-RXUQDO		
7	2UJDQL]DWRQDO \QDP LFV		

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	7	%XLOGLQJ DQG(QYLURQPHQW		
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	7	,(((7UDQVFHLYHUVRQ(OHFWURQ' HYLFHV		
	7	-RXUQDORI %XLOGLQJ (QJLQHHULQJ		
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	7	/(8.26		
	7	/LJKW6FLHQFH $SSOLFDWLRQV/6$		
	7	/LJKWQJ5HVHDUFK 7HFKQRORJ\		
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	7	$ SSOLHG2 SWFV	;	
	7	$ UFKLWHFWXUDO6FLHQFH5HYLHZ		
	7	%LRPHGLFDO2 SWFV([SUHVV		
	7	%XLOGLQJV		

	7	%XLOGLQJ 6HUYLFHV (QYLURQP HQWDO (QJLQHHU	;	
	7	%XLOGLQJ 6LP XODWRQ		
	7	&KLQHVH 2 SWFV/ HWWHUV		2
	7	&RORU 5 HVHDUFK DQG $ SSOFDWRQ		
	7	,(((&RQWRO 6\ VWP 0 DJD] LQH	;	
	7	,((((0HFWRQ' HYLFH/ HWWHU		
	7	,(((6HQVRUV-RXUQDO	;	
	7	,QGRRUDQG %XLOW(QYLURQP HQW	;	
	7	-RXUQDORI %LRORJLFDO 5 K\ VWP V		
	7	-RXUQDORI %XLOGLQJ 3HUIRUP DQFH 6LP XODWRQ		
	7	-RXUQDORI / LJKW 9 LVXDO(QYLURQP HQW		
	7	/ LJKWQJ ' HVLJQ DQG $ SSOFDWRQ		
	7	0 HDVXUHP HQW6 FLHQFH DQG 7 HFKQRORJ\		
	7	2 SWFV([SUHVV		
	7	6RODU(QHUJ\	;	
	7	7UDQVSRUWDWRQ 5 HVHDUFK 3DUW) 7UDIILF 3V\ FKRORJ\ DQG %HKDYLRXU		
	7	7XQQHOOQJ DQG 8 QGHUJURXQG 6SDFH 7HFKQRORJ\		
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	7	$SSOLHG(UJRQRPLFV		
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	7	(OHFWURQLFV//HWWHUV		
	7	(QJLQHHULQJ &RQWURODQG $UFKLWHFWXUDO DQDJHPHQW		
	7	(QYLURQPHQWDODQG([SHULPHQWDO%RWDQ		
	7	)URQWLHUVLQ1HXURELRORJ\		
	7	)URQWLHUVLQ3DQG6FLHQFH	;	
	7	)URQWLHUVLQ3\VFKRORJ\		
	7	+RUWLFXOWXUH		
	7	,(((7UDQVDFWLRQVRQ$XWRP DWLF &RQWURO		
	7	,(((7UDQVDFWLRQVRQ&LUFXLWVDQV 6\VWHPVIRU9LGHR7HFKQRORJ\		
	7	,(((7UDQVDFWLRQVRQ(QHUJ\ &RQYHUVLRQ		
	7	,(((7UDQVDFWLRQVRQ,PDJH3URFHVVLQJ		
	7	,(((7UDQVDFWLRQVRQ,QGXVWULDO (OHFWURQLFV		
	7	,(((7UDQVDFWLRQVRQ0 XOWLP HGLD		
	7	,(((7UDQVDFWLRQVRQ3RZHU(OHFWURQLFV		
	7	,QWHUDFWLYH'HVLJQ&KLQD		
	7	,QWHUQDWLRQDO-RXUQDORI 6XVWDLQDEOH / LJKWLQJ		
	7	-RXUQDORI ' D\OLJKWLQJ		
	7	-RXUQDORI (QYLURQPHQWDO(QJLQHHULQJ		
	7	-RXUQDORI 6FLHQFHDQG7HFKQRORJ\ LQ / LJKWLQJ		
	7	-RXUQDORI VWH,QOLQP LQDWLQJ (QJLQHHULQJ ,QWHUQDWLRQDO -DSDQ		
	7	/ LJKWDQG(QJLQHHULQJ		
	7	0 HWRRORJLD		
	7	2 SWLFDO(QJLQHHULQJ		
	7	2 [LGDWLYH0 HGLFLQHDQG&HOOXODU / RQJHYLW\		
	7	6LJQDO3URFHVVLQJ ,PDJH &RPPXQLFDWLRQ		

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7	QSM6FLHQFHR) RRG		
7	) RRG6FLHQFHDQG+ XP DQ: HQQHVV		
7	)22' %26&,(1&(		
7	)22' 48$/,7< $1' 6$)(7<		
7	)22' &+(0,675<		
7	75(1'6 ,1)22' 6&,(1&(7(&+12/2*<		
7	1 DWXUH6XVWDLQDELOLW\		
7	&20 35(+(16,9(5(9,(: 6 ,1)22' 6&,(1&($1')22' 6$)(7<		
7	) RRG+\ GUR FRQRLGV	;	
7	&UDWH DO5HYLHZ VLQ) RRG6FLHQFHDQG1 XWULWLRQ		
7	-2851$/ 2) $*5,&/785$/ $1')22' &+(0,675<		
7	$QQXDO5HYLHZ R) RRG6FLHQFHDQG7HFKQRORJ\		
7	)22' 5(6($5&+ ,17(51$7,21$/		
7	$SSOLHGDQG(QYLURQP HQWDO LFURELRORJ\		
7	&XUUHQW2 SLQLRQLQ) RRG6FLHQFH		
7	$GYDQFHVLQ1 XWULWLRQ		
7	0 ($7 6&,(1&(		
7	)22' &21752/		
7	/: 7) RRG6FLHQFHDQG7HFKQRORJ\		
7	1 XWULHQWV		
7	-RXUQDORI ' DLU\ 6FLHQFH		

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7	0 RDHFXDU1 XWLOLWLHV)RRG5HVHDUFK		
7	)RRG0 LFURELRORJ\		
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7	,17(51$7,21$/ -2851$/ 2))22' 0,&52%2/2*<		
7	,1129$7,9( )22' 6&,(1&((0(5*,1* 7(&+12/2*,(6		
7	)RRG)XQFWLRQ	;	
7	*/2%$/)22' 6(&85,7< $*5,&8/785(32/,&< (&2120,&6 $1' (19,5210(17		
7	$QWLR[LGDQWV		
7	)RRG(QJLQHHULQJ5HYLHZV		
7	)RRG5HYLHZV,QWHUQDWLRQDO		
7	)RRG4XDOLW\DQG3UHIHUHQFH		
7	)22' 32/,&<		
7	-2851$/ 2))81&7,21$/)22' 6		
7	)22' 3$&.$*,1* $1' 6+(/)/,)(		
7	)RRGDQG%LRSURFHVV7HFKQRORJ\		
7	%LRVWUXFWXUHV(QJLQHHULQJ		
7	)RRG6HFXULW\		
7	-RXUQDO RI VWH $FDGHP\ RI 1XWULWLRQ DQG ' LHWHWLFV		
7	-RXUQDORI VWH6FLHQFHRI)RRGDQG$JULFXOWXUH		
7	)URQWLHUVLQ1XWULWLRQ	;	
7	7R[LQV		
7	)RRGDQG%LRSURGXFWV3URFHVVLQJ		
7	-2851$/ 2))22' &20326,7,21 $1' 1/<6,6		
7	-RXUQDORI)RRG6FLHQFH		
7	-RXUQDORI &HUHDO6FLHQFH		
7	,17(51$7,21$/ -2851$/ 2))22' 6&,(1&(6$1' 1875,7,21		
7	)HUPHQWDWLRQ		

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7	$ QDO\WFDO0 HWKRGV		
7	3/$17)22' 6)25 +80$1 1875,7,21		
7	,QWHUQDWRQDO -RXUQDO RI)RRG 6FLHQFH 7HFKQRORJ\		
7	-RXUQDORI ,QVHFWVDV) RRGDQG) HHG		
7	%LRUHVRXUFHVDQG%LRSURFHVVLQJ		
7	)RRG $GGLWLYHV &RQWDPLQDQW 3DUW $ &+(0,675< 1/<6,6 &21752/ (;32685(5,6. $66(660(17		
7	&XUUHQW1 XWUWRQ5HSRUW		
7	&KHPLFDO6HQVHV		
7	$QQDOVRI $JULFXOWXUDO6FLHQFHV		
7	)RRG6\WKFWXUH1 HWKHUODQGV		
7	-RXUQDORI VKH ,QWHUQDWRQDO6RFLHW RI 6SRUW 1 XWUWRQ		
7	)RRGV		
7	)RRG$QDO\WFDO0 HWKRGV		
7	)RRG$GGLWLYHV &RQWDPLQDQW 3DUW%		
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7	-RXUQDORI ,QWHUDWLYH$JULFXOWXUH		
7	)RRG 1 XWUWRQ5HVHDUFK		
7	)URQWHLVLQ6XWDLQDEOH)RRG6\ VWP V	;	
7	-RXUQDORI %LRHQJLQHHULQJ DQG%LRVFLHQFH		
7	()6$ -2851$/		
7	,QWHUQDWRQDO-RXUQDORI ' DLU 7HFKQRORJ\		
7	,17(51$7,21$/ ' $,5< -2851$/		
7	)RRGDQG(QHUJ\ 6HFXULW		

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7	-RXUQDORI) RRG%LRFKHP LWWH		
7	-RXUQDO RI / RVV 3UHYHQWWRQ LQ WKH 3URFHVV ,QGXWWLHV		
7	) RRGERUQH3DWKRJHQV DQG' LVHDVH		
7	) RRG%LRSK\ VLFV		
7	) RRG DQG(QYLURQP HQWDO9 LURORJ\		
7	%,27(&+12/2*< 352*5(66		
7	,QWHUQDWRQDO-RXUQDORI) RRG3URSHLWWHV		
7	3K\ VRFKHP LFDO$ QDO\VLV		
7	-RXUQDORI 7H[WXUH6WXGLHV		
7	*0 &5236)22'		
7	) RRG DQG$ JULFXOWXUDO,P P XQRORJ\		
7	&KHP LFDO DQG %LRORJLFDO 7HFKQRORJLHV LQ $ JULFXOWXUH		
7	(XURSHDQ -RXUQDO RI / LSLG 6FLHQFH DQG 7HFKQRORJ\		
7	-RXUQDORI) RRG6FLHQFH DQG7HFKQRORJ\		
7	5HQHZ DEOH$ JULFXOWXUH DQG) RRG6\ VWHP V		
7	-RXUQDORI) RRG3URFHVV(QJLQHHULQJ		
7	$ XWWDODQ-RXUQDORI * UDSH DQG: LQH5 HVHDUFK		
7	) ODYRXU DQG) UDJUDQFH-RXUQDO		
7	-RXUQDO RI) RRG 0 HDVXUHP HQW DQG &KDUDFWHUL]DWRQ		
7	-RXUQDORI 6VRUHG3URGXFWV5 HVHDUFK	;	
7	&(5($/ &+(0,675<		
7	1-$6 : DJHQLQJHQ-RXUQDORI / LIH6FLHQFHV		
7	$ P HULFDQ-RXUQDORI (QRORJ\ DQG9 LWWFXOWXUH		
7	%LRVFLHQFH%LRWHFKQRORJ\ DQG%LRFKHP LWWH		
7	-RXUQDORI 6HQVRUV 6WXGLHV		
7	-2851$/ 2) 2&,17(51$7,21$/		
7	$ JURHFRORJ\ DQG6XWWDLQDEOH) RRG6\ VWHP V		
7	-RXUQDORI 0 HGLFLQDO) RRG	;	
7	) RRG7HFKQRORJ\ DQG%LRWHFKQRORJ\		
7	) RRG6FLHQFH 1 XWWWRQ		
7	-RXUQDORI (VWHQWDO2 LO5 HVHDUFK		
7	: RUOG0 \ FRVR[LQ-RXUQDO		
7	-RXUQDORI ' DLLV 5 HVHDUFK		
7	%ULWWK) RRG-RXUQDO	;	
7	) RRG6FLHQFH DQG%LRWHFKQRORJ\		
7	-RXUQDORI) RRG4 XDOWV		
7	-RXUQDORI WKH$ P HULFDQ2 LO&KHP LWW 6RFLHWV		
7	-RXUQDORI) RRG3URFHVVLQJ DQG3UHVHUYDWRQ		

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7	3DFNDJLQJ 7HFKQRORJ\ DQG6FLHQFH		
7	) RRGDQG1 XWULWLRQ%XOOHWLQ		
7	%UMVK 3RXOWU\ 6FLHQFH		
7	,17(51$7,21$/ -2851$/ 2) * $6752120 < $1')22' 6&,(1&(	;	
7	$JULFXOWXUH		
7	-RXUQDO RI (QYLURQPHQWDO6FLHQFH DQG +HDOWK 3DUW% 3HVWLFLGHV) RRG &RQWDPLQDQWV DQG $JULFXOWXUDO DWHV		
7	) RRG%LRWHFKQRORJ\		
7	-RXUQDO RI) RRG6DIHWV		
7	3RODK -RXUQDO RI) RRGDQG1 XWULWLRQ6FLHQFHV		
7	0 ,&52%$/ 5,6. 1/<6,6		
7	-RXUQDO RI 7KH,QWHUQDWLRQ %UHZLQJ		
7	) RRG6FLHQFHDQG7HFKQRORJ\		
7	$SSOHG%LRORJLFDO&KHPLVWU		
7	-RXUQDO RI : LQH(FRQRPLFV		
7	-RXUQDO RI VWH $PHULFDQ 6RFLHWV RI %UHZLQJ &KHPLVWV		
7	-RXUQDO RI $TXDW) RRG3URGXFWV7HFKQRORJ\		
7	-RXUQDO RI ,QFOXVLRQ3KHQRPHQDDQG0 DFURF\ FOH &KHPLVWU		
7	&RJHQV\RRG $JULFXOWXUH		

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7	$UWLFLDO,QWHOOLJHQFH			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	,(((7UDQVDFWRQVRQ ,PDJH3URFHVVLQJ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	,(((7UDQVDFWRQVRQ ,QIRUP DWLRQ7KHRU\			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	,(((7UDQVDFWRQVRQ 3DWWHUQ$QDO\VLVDQG 0 DFKLQH,QWHOOLJHQFH			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	,(((7UDQVDFWRQVRQ 6LJQDO3URFHVVLQJ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	,(((7UDQVDFWRQVRQ 9LVXDO,QWHOOLJHQFH &RPSXWHU* UDSKLFV			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹

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7	,QWHUQDWLRQDO-RXUQDORI &RPSXWHU9LVLRQ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	-RXUQDORI 0 DFKLQH / HDUQLQJ 5HVHDUFK			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	3DWWHUQ5HFRJQLWLRQ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	9LVXDO,QWHOOLJHQFH		73	Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	,(((7UDQVDFWLRQVRQ 0 HGLFDO,P DJLQJ			“ ^ ¤ 0 õ ¾‰ 8
7	0 HGLFDO,P DJH$ QDO\VLV			“ ^ ¤ 0 õ ¾‰ 8
7	1 HXURLP DJH			“ ^ ¤ 0 õ ¾‰ 8
7	,(((7UDQVDFWLRQVRQ * HRVFLHQFHDQG5HP RWH 6HQVLQJ			Š + ³ 0 0 • ì
7	,6356 -RXUQDORI 3KRWRJUDP P HWU DQG 5HP RWH6HQVLQJ			Š + ³ 0 0 • ì
7	5HP RWH6HQVLQJ RI (QYLURQP HQW			Š + ³ 0 0 • ì
7	$GYDQFHVLQ2 SWLFV DQG 3KRWRQLFV			ð o Ž +
7	/ DVHU 3KRWRQLFV 5HYLHZV			ð o Ž +
7	/ LJKW6FLHQFH $SSOLFDWLRQV		2	ð o Ž +
7	2 SWLFD			ð o Ž +
7	2 SWLFV([SUHVV			ð o Ž +
7	3K\VLFV5HYLHZ / HWWHUV			ð o Ž +
7	&$$, 7UDQVDFWLRQVRQ ,QWHOOLJHQFH7HFKQRORJ\			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „

7	&RP SXWDWRQDO9LVXDO 0HGLD			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	&RP SXWHU$LGHG' HVLJQ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	&RP SXWHU* UDSKLFV) RUXP			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	&RP SXWHU9LVRQDQG ,P DJH8QGHUVWDQGLQJ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	) RXQGDWRQVDQG7UHQGVLQ &RP SXWHU* UDSKLFVDQG 9LVRQ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	,((($&0 7UDQVDFWRQV RQ$XGLR 6SHHFK DQG / DQJXDJH3URFHVVLQJ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	,(((&$$ -RXUQDORI $XWRP DWHD6LQFD		73	Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	,(((&RP SXWHU* UDSKLFV DQG$SSOLFDWRQ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	,(((-RXUQDORI 6HOHFWHG 7RSLFVLQ6LJQDO 3URFHVVLQJ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	,(((6LJQDO3URFHVVLQJ 0 DJD]LQH	;		Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	,(((7UDQVDFWRQVRQ $IIHFWLYH&RP SXWLQJ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „

7	,(((7UDQVDFWLRQVRQ &LUFXLWVDQG6\VWHPVIRU 9LGHR7HFKQRORJ\			Í¾ðo‰8c™ 8oÍ¾‰80 Íù0cf´-¹ 0ovÊ„
7	,(((7UDQVDFWLRQVRQ &RPPXQLFDWLRQV			Í¾ðo‰8c™ 8oÍ¾‰80 Íù0cf´-¹ 0ovÊ„
7	,(((7UDQVDFWLRQVRQ &RPSXWDWLRQDO,PDJLQJ			Í¾ðo‰8c™ 8oÍ¾‰80 Íù0cf´-¹ 0ovÊ„
7	,(((7UDQVDFWLRQVRQ +XPDQ0DFKLQH6\VWHPV			Í¾ðo‰8c™ 8oÍ¾‰80 Íù0cf´-¹ 0ovÊ„
7	,(((7UDQVDFWLRQVRQ ,QGXVWULDO,QIRUPDWLFV			Í¾ðo‰8c™ 8oÍ¾‰80 Íù0cf´-¹ 0ovÊ„
7	,(((7UDQVDFWLRQVRQ ,QIRUPDWLRQ)RUHQVLFVDQG 6HFXULW\			Í¾ðo‰8c™ 8oÍ¾‰80 Íù0cf´-¹ 0ovÊ„
7	,(((7UDQVDFWLRQVRQ ,QWHOOLJHQW7UDQVSRUWDWLRQ 6\VWHPV			Í¾ðo‰8c™ 8oÍ¾‰80 Íù0cf´-¹ 0ovÊ„
7	,(((7UDQVDFWLRQVRQ 0XOWLPHGLD			Í¾ðo‰8c™ 8oÍ¾‰80 Íù0cf´-¹ 0ovÊ„
7	,(((7UDQVDFWLRQVRQ 1HXUDO1HWZRUNVDQG /HDUQLQJ6\VWHPV	;		Í¾ðo‰8c™ 8oÍ¾‰80 Íù0cf´-¹ 0ovÊ„
7	,(((7UDQVDFWLRQVRQ 6LJQDOSURFHVVLQJ 3URFHVVLQJRYHU1HWZRUNV	;		Í¾ðo‰8c™ 8oÍ¾‰80 Íù0cf´-¹ 0ovÊ„
7	,(((7UDQVDFWLRQVRQ 6\VWHPV0DQ &\EHUQHWLFV6\VWHPV			Í¾ðo‰8c™ 8oÍ¾‰80 Íù0cf´-¹ 0ovÊ„

7	,QWHUQDWLRQDO-RXUQDORI +XPDQ&RPSXWHU ,QWHUDFWLRQ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	-RXUQDORI &XOWXUDO +HULWDJH			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	0 DFKLQH,QWHOOLJHQFH 5HVHDUFK	;	73	Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	0 DFKLQH/ HDUQLQJ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	1 HXUDO1 HWZRUNV			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	6,$0 -RXUQDORQ,PDJLQJ 6FLHQFHV			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	6LJQDO3URFHVVLQJ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	9LWXDO5HDOWV			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	9LWXDO5HDOWV ,QWHOOLJHQW+DUGZDUH		73	Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	9LVXDO&RPSXWLQJ IRU ,QGXVWU %LRPHGLFLQH DQG $UW	;	73	Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	$QQDOVRI %LRPHGLFDO (QJLQHHULQJ			“ ^ ¤ 0 õ ¾‰ 8
7	%LRLQIRUPDWLFV			“ ^ ¤ 0 õ ¾‰ 8

7	%UHLQJVLQ%LRLQIRUPDWLFV			“ ^ ¤ 0 õ ¾ ‰ 8
7	+XPDQ%UDLQ0 DSSLQJ			“ ^ ¤ 0 õ ¾ ‰ 8
7	,((($&0 7UDQVDFWLRQV RQ&RPSXWDWLRQDO%LRORJ\ DQG%LRLQIRUPDWLFV			“ ^ ¤ 0 õ ¾ ‰ 8
7	,(((-RXUQDORI %LRPHGLFDODQG+HDOWK ,QIRUPDWLFV			“ ^ ¤ 0 õ ¾ ‰ 8
7	,(((7UDQVDFWLRQVRQ %LRPHGLFDO(QJLQHHULQJ			“ ^ ¤ 0 õ ¾ ‰ 8
7	,(((7UDQVDFWLRQVRQ (PHUJLQJ 7RSLFVLQ &RPSXWDWLRQDO,QWHOOLJHQFH	;		“ ^ ¤ 0 õ ¾ ‰ 8
7	,(((7UDQVDFWLRQVRQ 1HXUDO6\VWHPV VDQG 5HKDELOLWDWLRQ(QJLQHHULQJ			“ ^ ¤ 0 õ ¾ ‰ 8
7	,(((7UDQVDFWLRQVRQ 1XFOHDU6FLHQFH			“ ^ ¤ 0 õ ¾ ‰ 8
7	,(((7UDQVDFWLRQVRQ 8OWUDVRQLFV)HUURHOHFWULFV DQG)UHTXHQF\ &RQWURO			“ ^ ¤ 0 õ ¾ ‰ 8
7	-RXUQDORI 1HXUDO (QJLQHHULQJ			“ ^ ¤ 0 õ ¾ ‰ 8
7	0 DJQHWF5HVRQDQFH ,P DJLQJ	;		“ ^ ¤ 0 õ ¾ ‰ 8
7	0 DJQHWF5HVRQDQFHLQ 0 HGLFLQH			“ ^ ¤ 0 õ ¾ ‰ 8
7	1 0 5 LQ%LRPHGLFLQH			“ ^ ¤ 0 õ ¾ ‰ 8
7	,(((* HRVFLHQFHDQG 5HPRWH6HQVLQJ / HWWHUV	;		Š + ³ 0 0 • ì
7	,(((* HRVFLHQFHDQG 5HPRWH6HQVLQJ 0 DJD]LQH			Š + ³ 0 0 • ì
7	,(((-RXUQDORI 6HOHFWHG 7RSLFVLQ$SSOLHG(DUWK 2EVHUYDWLRQVDQG5HPRWH 6HQVLQJ			Š + ³ 0 0 • ì
7	,QWHUQDWLRQDO-RXUQDORI $SSOLHG(DUWK2EVHUYDWLRQ DQG* HRLQIRUPDWLRQ			Š + ³ 0 0 • ì
7	,QWHUQDWLRQDO-RXUQDORI 5HPRWH6HQVLQJ			Š + ³ 0 0 • ì

7	,6356,QWHUQDWLRQDO -RXUQDORI*HR,QIRUPDWLRQ			Š+³ 0 0 • ì
7	6&,(1&(&+,1$(DUWK 6FLHQFHV		3	Š+³ 0 0 • ì
7	$GYDQFHG2SWLFDO 0DWHULDOV			ð o Ž +
7	$GYDQFHG3KRWRQLFV			ð o Ž +
7	$3/3KRWRQLFV			ð o Ž +
7	'LVSOD\V			ð o Ž +
7	2SWLFVDQG/DVHU 7HFKQRORJ\			ð o Ž +
7	2SWLFVDQG/DVHUVLQ (QJLQHHULQJ			ð o Ž +
7	2SWLFV/HWWHUV			ð o Ž +
7	2SWR(OHFWURQLF$GYDQFHV		71	ð o Ž +
7	3KRWRQLFV5HVHDUFK			ð o Ž +
7	$&0-RXUQDORQ &RPSXWDWLRQDO&RJQLWLYH +HXULVWLFV			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	$&07UDQVDFWLRQVRQ 0 XOWLPHGLD&RPSXWLQJ &RPPXQLFDWLRQVDQG $SSOLFDWLRQV			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	&KLQHVH-RXUQDORI (OHFWURQLFV		71	Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	&RPSXWHU$QLPDWLRQDQG 9LUWXDO5HDOLW\	;		Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	&RPSXWHUV(OHFWULFDO (QJLQHHULQJ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	&RPSXWHUV*UDSKLFV			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	'LJLWDO6LJQDO3URFHVVLQJ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „

7	(QJLQHHULQJ ZLWK &RP SXWHUV			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	(85$6,3 -RXUQDORQ ,P DJHDQG9LGHR 3URFHVVLQJ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	) RXQGDWRQVDQG7UHQGVLQ 6LJQDO3URFHVVLQJ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	) URQWLHUVRI &RP SXWHU 6FLHQFH		73	Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	* UDSKLFDO RGHO			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	,(((0 XOWP HGLD	;		Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	,(((6LJQDO3URFHVVLQJ / HWWHUV			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	,(((7UDQVDFWLRQV RQ %URDGFDVWLQJ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	,(7 ,P DJH3URFHVVLQJ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	,P DJHDQG9LVLRQ &RP SXWLQJ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	,QIRUP DWLRQ9LVXDOL]DWLRQ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „

7	,QVWUXFWLRQDO-RXUQDORQ ' RFXPHQW\$QDO\VLVDQG 5HFRJQLWLRQ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	-RXUQDORI (OHFWURQLF ,PDJLQJ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	-RXUQDORI VWH2 SWLFDO 6RFLHWRI \$PHULFD \$ 2 SWLFV,PDJH6FLHQFH DQG9 LVLRQ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	-RXUQDORI 9LVXDO &RP P XQLFDWLRQDQG,P DJH 5HSUHVHQWDWLRQ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	-RXUQDORI 9LVXDO[DQLPDWLRQ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	0 DFKLQH9 LVLRQDQG \$SSOLFDWLRQV			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	0 XOWLPHGLD6\VWHP V DQG6LJQDO3URFHVVLQJ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	0 XOWLPHGLD6\VWHP V			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	0 XOWLPHGLD7RROVDQG \$SSOLFDWLRQV			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	1 HXUDO&RP SXWDWLRQ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	1 HXUDO&RP SXWLQJ \$SSOLFDWLRQ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „

7	2 SWFDO(QJLQHHULQJ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	3DWKRORJ5HFRJQLWRQ/ HWWHUV			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	6LJQDO,P DJHDQG9 LGHR 3URFHVVLQJ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	6LJQDO8URFHVVLQJ ,P DJH &RP P XQLFDWRQ			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	7KH9 LVXDO&RP SXWHU			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	9 LVXDQ,QIRUP DWLFV			Í ¾ð o ‰8 c™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	$ UWLFLDO,QWHOOLJHQFHIlQ 0 HGLFLQH			“ ^ ¤ 0 õ ¾‰ 8
7	%LRP HGLFDO(QJLQHHULQJ 2 QQQH	;		“ ^ ¤ 0 õ ¾‰ 8
7	%LRP HGLFDO6LJQDO 3URFHVVLQJ DQG&RQWURO			“ ^ ¤ 0 õ ¾‰ 8
7	%0 & %LRLQIRP DWLFV			“ ^ ¤ 0 õ ¾‰ 8
7	%0 & 0 HGLFDO,P DJLQJ			“ ^ ¤ 0 õ ¾‰ 8
7	&RP SXWHU0 HWKRGV DQG 3URJUDP VlQ%LRP HGLFLQH			“ ^ ¤ 0 õ ¾‰ 8
7	&RP SXWHUM HG0 HGLFDO ,P DJLQJ DQG* UDSKLFV			“ ^ ¤ 0 õ ¾‰ 8
7	&RP SXWHUVlQ%LRORJ\ DQG 0 HGLFLQH			“ ^ ¤ 0 õ ¾‰ 8
7	,QWHUQDWLRQDO-RXUQDORI ' DWD0 LQLQJ DQG %LRLQIRUP DWLFV			“ ^ ¤ 0 õ ¾‰ 8
7	-RXUQDORI %LRP HGLFDO			“ ^ ¤ 0 õ ¾‰

	6HP DQWFV			8
7	-RXUQDORI 0 HGLFDODQG %LRORJLFDO(QJLQHHULQJ			“ ^ ¤ 0 õ ¾‰ 8
7	0 HGLFDO(QJLQHHULQJ 3K\VLFV			“ ^ ¤ 0 õ ¾‰ 8
7	1 XFOHDU0 HGLFLQHDQG %LRORJ\			“ ^ ¤ 0 õ ¾‰ 8
7	&KLQHVH* HRJUDSKLFDO 6FLHQFH		3	Š + ³ 0 0 • ì
7	* HRGHV\ DQG* HRG\QDPLFV		3	Š + ³ 0 0 • ì
7	* HR\SDWLDO,QIRUP DWLRQ 6FLHQFH		3	Š + ³ 0 0 • ì
7	*,6FLHQFH 5HP RWH 6HQVLQJ			Š + ³ 0 0 • ì
7	,QWHUQDWLRQDO-RXUQDORI ' LJLWDO(DUWK			Š + ³ 0 0 • ì
7	-RXUQDORI $SSOLHG5HP RWH 6HQVLQJ			Š + ³ 0 0 • ì
7	-RXUQDORI (DUWK6FLHQFH	;	3	Š + ³ 0 0 • ì
7	3KRWRJUDPP HWULF (QJLQHHULQJ DQG5HP RWH 6HQVLQJ			Š + ³ 0 0 • ì
7	5HP RWH6HQVLQJ			Š + ³ 0 0 • ì
7	$SSOLHG2 SWLFV	;		ð o Ž +
7	&KLQHVH2 SWLFV/ HWWHUV		2	ð o Ž +
7	) URQWLHUV RI 2 SWRHOHFWURQLFV		71	ð o Ž +
7	,(((7UDQVDFWLRQV RQ 7HUDKHUW] 6FLHQFH DQG 7HFKQRORJ\	;		ð o Ž +
7	-RXUQDORI ,QIRUP DWLRQ ' LVSOD\			ð o Ž +
7	-RXUQDORI VKH6RFLHWLHV IRU ,QIRUP DWLRQ' LVSOD\			ð o Ž +
7	2 SWFDO DWHULDOV			ð o Ž +
7	2 SWFV&RP P XQLFDWLRQV			ð o Ž +
7	2 SWRHOHFWURQLFV/ HWWHUV		71	ð o Ž +
7	3KRWRQLFRXWFV			ð o Ž +
7	6SHFWURVFRS\			ð o Ž +
c ½U @ 0				
7	/ ³ Í À Í ù 0 q		7%	Í ¾ð o ‰8 c ™ 8 o Í ¾‰8 0 Í ù 0 cf ´ - ¹

				0 o v Ê „
7	/ ³ “ ^ ¤ 0] Q 0 q		5	“ ^ ¤ 0 õ ¾ ‰ 8
7	[0 q		3	Š + ³ 0 0 • ì
7	Š + 0 q		73	Š + ³ 0 0 • ì
7	/ ³ › 0 / ç 3		2	ð o Ž +
7	/ ³ w ›		71	ð o Ž +
7	› • 0 q		2	ð o Ž +
7	› 0 0 q		2	ð o Ž +
7	™8 o Y • ™0 Í ù 0 0 q		73	Í ¾ð o ‰8 c ™ 8 o Í ¾ ‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	(• 0 ð o 0 q		71	Í ¾ð o ‰8 c ™ 8 o Í ¾ ‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	, Ä ¿ ç 0 q	;	9	Í ¾ð o ‰8 c ™ 8 o Í ¾ ‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	Í 0 0 q	;	7	Í ¾ð o ‰8 c ™ 8 o Í ¾ ‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	& Ÿ , Ä 0 q		73	Í ¾ð o ‰8 c ™ 8 o Í ¾ ‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	f ´ - ¹ 0] & Ÿ		73	Í ¾ð o ‰8 c ™ 8 o Í ¾ ‰8 0 Í ù 0 cf ´ - ¹ 0 o v Ê „
7	&7 8 â 0 ë Y N		3	“ ^ ¤ 0 õ ¾ ‰ 8
7	“ ^ ¤ 0] Q 0 v		5	“ ^ ¤ 0 õ ¾ ‰ 8
7	ô l ð , 0 ‰8		71	“ ^ ¤ 0 õ ¾ ‰ 8
7	‘ ö ‡ WŠ +	;	3	Š + ³ 0 0 • ì
7	[¹ q		3	Š + ³ 0 0 • ì
7	Ô Ÿ ² M 0 Š +		9	Š + ³ 0 0 • ì
7	› (• e w ›		2	ð o Ž +
7	› ( ] Q	;	2	ð o Ž +

7	ó 0 w›] Q		71	ð o Ž +
7	› 0 : A] Q	;	7+	ð o Ž +
7	› V 0 0 › V Óe		2	ð o Ž +
7	ë › 0		2	ð o Ž +
7	¡ 6 0 ¡ µ		2	ð o Ž +
7	w› 0 › (• 0) º		71	ð o Ž +
7	/ ¤ 0 1 ’ v ! (• Q		5	“ ^ ¤ 0 õ ¾ ‰ 8
7	/ 1 ’ õ ¾ 0 v		5	“ ^ ¤ 0 õ ¾ ‰ 8
7	/ ³ ¤ 0 õ ¾ 0 v		5	“ ^ ¤ 0 õ ¾ ‰ 8
7	/ ³ , • ¤ 0 õ ¾ v		5	“ ^ ¤ 0 õ ¾ ‰ 8
7	/ ³ 1 ’ ¤ 0 v		5	“ ^ ¤ 0 õ ¾ ‰ 8
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7	(QHUJ\ 6RXUFHV 3DUW $ 5HFRYHU\ 8WLOL]DWRQ DQG(QYLURQP HQWDO(IIHFWV			•
7	&KHP LVWV DQG 7HFKQRORJ\ RI) XHOV DQG 2 LOV			•
7	6DH ,QWHUQDWRQDO -RXUQDO RI) XHOV DQG / XEULFDQWV			•
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7	1 DWXUDO* DV,QGXVWU %			˜ æ
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7	6FLHQFH DQG 7HFKQRORJLHV 2 LO DQG 2 LO 3URGXFWV3LSHOQH7UDQVSRUWDWRQ			˜ æ
7	' HYHORSP HQW,Q3HWURDXP 6FLHQFH			˜ æ

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, (((- RXUQDO RI 6HOHFWHG 7RSLFV LQ 6LJQDO 3URFHVVLQJ			ç 3	7
, (((- 2851$/ 2) 62/ , ' 67$7(&, 5&8, 76			ç 3	7
, (((7UDQVDFWLRQ RQ 3DWWHUQ 6FLHQFH			ç 3	7
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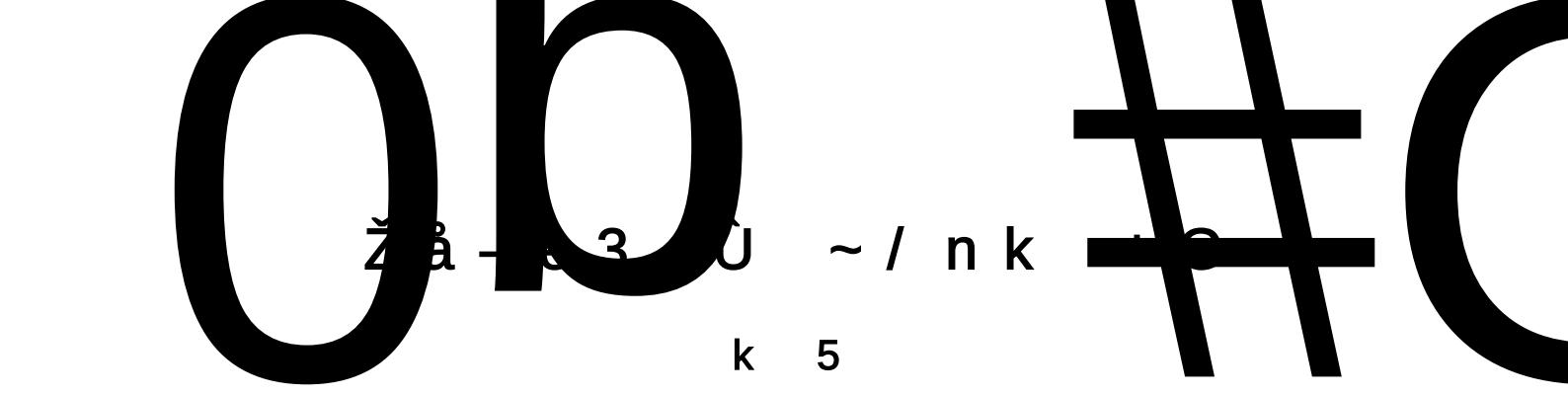

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	&RPSXWHU]HG0 HGLFDO,P DJLQJ DQG * UDSKLFV			7
	$XWRP DWRQ LQ&RQWUKFWRQ			7
	9 LUWXDO5 HDOLW			7
	&RPSXWU* UDSKLFV) RUXP			7
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